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ABSTRACT

The publication describes the role of the University of Tennessee (UT) in providing higher education, continuing education, and resource services for education and rehabilitation of hearing impaired persons. Separate papers address the following topics: the UT teacher training program, an orientation program to serve state rehabilitation agency personnel, a project to train personnel to work with deaf blind adults, workshops on mental health services for deaf people, support services to hearing impaired college students, the Southeastern Regional Interpreter Training Consortium, rehabilitation continuing education, a project to design a 5 year state plan for providing comprehensive educational services to deaf children from birth to 21 years old, and UT's rehabilitation engineering center for the deaf and hearing impaired. A section containing annotations of publications on deafness from the UT College of Education is also included. (CL)

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PERSPECTIVES ON DEAFNESS IN HIGHER EDUCATION

A LOOK AT THE UNIVERSITY OF TENNESSEE PROGRAMS

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PREFACE

One of the missions of the American Deafness and Rehabilitation Association (ADARA) is to share information with its members, subscribers and interested individuals within and outside the field of deafness. One means of accomplishing this is through publications which serve as an information exchange mechanism.

This particular publication, "Perspectives on Deafness in Higher Education: A Look at The University of Tennessee Programs," shares practical information and unfolds a process and a philosophy as it tells the story of how one university fulfills its role as not only an institution of higher learning but as a continuing education and resource center for education and rehabilitation. This monograph is in itself a contribution to the "state of the art" of progress made in higher education.

In unfolding The University of Tennessee story, information that previously was not readily accessible in printed form is now made available to the researcher, practitioner, professional, student, and interested readers who often write us and ask for information on educational opportunities and programs in deafness. ADARA would welcome similar efforts by other existing programs.

As one is introduced to The University of Tennessee program, one cannot help but be inspired by the progress and vision of both the university itself and the deafness program. Behind both are some fine people who have met challenges and continue to grow to meet further challenges in providing equal educational opportunities to deaf people themselves and to individuals seeking to enter this exciting and challenging field.

May the information on the various components of The University of Tennessee deafness program inform you and may the message of outreach and sensitivity to attitude and support service needs inspire you in understanding ways and means of advancing human potential and in believing that anything is possible.

Sharon H. Carter
Executive Director
American Deafness and Rehabilitation Association

INTRODUCTION

WILLIAM E. WOODRICK

The University of Tennessee, chartered in 1794, is a multi-campus, multi-purpose system of higher education encompassing all of Tennessee. It is Tennessee's official State University and Federal Land-Grant Institution—frequently called "the capstone of the state's educational system." In addition to state funds and student fees, the University also receives support from private gifts, research grants and contracts, and federal appropriations. The University seeks to develop human and material resources of the state through three broad programs: instruction, research, and extension and public service.

In student enrollments and the scope of its academic programs, The University of Tennessee ranks among the larger institutions of higher education in the United States, with campuses at Memphis, Martin, Chattanooga, and Knoxville. In the fall of 1981, a total of 43,740 students enrolled on the campuses of The University of Tennessee system, with a total of 26,601 enrolled at the Knoxville campus.

During the early 1930s, the Department of Special Education and Rehabilitation was established within the UT College of Education. By 1938, in cooperation with the Tennessee School for the Deaf, also located in Knoxville, the state's first program for training teachers of deaf children had been established. By the 1960s the UT deaf education program was graduating more students than any other in the United States. The deaf education teacher training program described in this monograph by Dr. Olga Welch, director, has been the foundation for additional deafness-related programs

Cooperative administrative leadership by both the UT College of Education and the Tennessee School for the Deaf resulted in expanded instruction and service during the early 1960s. A short-term (three month) program offering academic training for rehabilitation personnel in the area of deafness was developed and funded by the Department of HEW, Office of Social and Rehabilitative Services, in 1963. The Orientation to Deafness Program continues and is described in this publication by Douglas Tyler, assistant director of the program.

A UT-sponsored national workshop concerned with improved vocational opportunities for deaf people was held in Knoxville in 1964. Recom-

mendations from this conference resulted in the establishment of the National Technical Institute for the Deaf at Rochester, N.Y., as well as regional vocational-technical training programs in St. Paul, Minn., Seattle, Wash., and New Orleans, La.

Since 1970 The University of Tennessee has steadily expanded opportunities for professionals in the field of deafness by co-sponsoring RSA Region IV annual southeastern regional institutes on deafness. The institutes originally were supported through short-term training funds from RSA Region IV and later were supported as a part of the Rehabilitation Continuing Education Program (RCEP). Approximately 500 people in the area of deafness attend the annual institutes, which rotate among the eight southeastern states and are now supported by state agencies. Region IV RCEP continues to sponsor diverse programs for training rehabilitation personnel in the area of deafness as described in the article by Dr. Jack Cassell.

The program for training interpreters began in 1975 and by 1982 had expanded to include affiliate institutions in each of eight southeastern states, as outlined by Marie Griffin, coordinator of the Southeastern Regional Interpreter Training Consortium (SERITC).

Although a number of deaf students had completed graduate studies at both the master's and doctoral levels, a systematic program for providing interpreters to all deaf University students was not established until 1976. This was accomplished by utilizing an Innovation and Expansion Grant through the Tennessee Division of Vocational Rehabilitation. Interpreters have since been provided by the University for any deaf student upon request, and the program has been expanded to provide specialized services to any handicapped students through the Office of Student Services, as discussed by Martha Bryan and Tammy Cantrell.

Other articles in this monograph describe some recent projects aimed primarily toward instate activities in the area of deafness. During 1981-82, the Tennessee State Department of Education contracted with the University of Tennessee to develop a statewide plan for the education of all deaf children in Tennessee. This planning process is described by Bill Woodrick, Ed Davis, and Wanda Moody.

Don Ashmore and Bill Woodrick discuss the Tennessee Department of Mental Health and Mental Retardation project aimed toward providing mental health personnel with a greater awareness about needs of deaf persons.

Norma Tedder, coordinator of the Helen Keller National Center Project, describes the program of services and training in the area of deaf-blindness which began in 1980 through a grant from the Helen Keller National Center for Deaf-Blind Youth and Adults.

The University's Department of Audiology and Speech Pathology received from the National Institute on Handicapped Research funding for a one-year project to establish a Rehabilitation Engineering Center

of Deafness in 1982. In her article, Charlotte Farrar, RCE coordinator, gives a brief history of the Center and discusses its activities.

The annotations prepared by Larry Adkins describe some publications in the field of deafness which were written by former staff members or originated from programs within the University of Tennessee.

Other activities of the University not discussed in articles in this monograph but which deserve mention here were two short-term training projects sponsored by the University during the 1970s. These projects resulted in pioneer publications in the areas which they addressed: vocational evaluation for deaf people and independent living skills for severely handicapped deaf people.

In 1975, the Department of Special Education and Rehabilitation received funding from the Region IV Rehabilitation Services Administration to develop guidelines for the vocational evaluation of deaf people. In order to accomplish this, a task force was formed consisting of ten practitioners who were involved in vocational evaluation of deaf persons within the eight states in the federal Region IV. The information base of the task force was expanded by collaborative agreements with Auburn University staff members associated with research and training activities on vocational evaluation and from the National Research and Training Center on Deafness, located at New York University. The task force, including staff from Auburn and New York University, was convened to review gaps in knowledge and practices of the tenuous vocational evaluation procedures then being used with deaf people.

Persons providing vocational evaluation and adjustment services often had had to depend upon intuition, personal experiences, isolated journal articles, or other less-than-satisfactory sources for guidance in test selection, administration, and interpretation. The Region IV task force sought to develop and present principles, procedures, techniques, and other related informaton which vocational evaluators could utilize to guide their efforts with deaf persons.

The guidelines developed by the task force have general application for use with deaf clients regardless of their ability levels or geographical locations. The combined knowledge and skills of vocational evaluators serving deaf clients and expert consultants from the general field of vocational evaluation and from deafness rehabilitation were productively blended with governmental leadership and support to develop a document entitled *Deaf Evaluation and Adjustment Feasibility: Guidelines for the Vocational Evaluation of Deaf Clients*, published by the Deafness Research and Training Center at New York University in 1976. This publication consists of eleven chapters and seven appendices, including a glossary of terms, summary of selected standardized tests, and sources of additional information.

The guidelines document describes the vocational evaluation process as it relates specifically to the unique needs of deaf people. The

rehabilitation process, including initial assessment, work samples, and situational assessment, is discussed, and detailed technical data on specific topics are summarized. Task force recommendations and proposals for action are presented, along with the specific actions needed to improve vocational evaluation services for deaf persons.

This publication is viewed not as an exhaustive set of guidelines for the vocational evaluation of deaf persons, but rather as a beginning—even a tenuous—statement. However, Region IV task force members hope that, at a minimum, the generalized parameters presented have laid the groundwork on which follow-through efforts can be built.

The direction(s) evaluators and others may choose to pursue will, of course, depend primarily on the requirements of their particular clients and/or program(s). The collective experience of this task force indicates a number of major programs for which deafness rehabilitation should pursue solutions. These are presented in the publication as recommendations to the field. Each of the ten proposals presents a concise statement of the problem, need associated with the problem, and recommendation for action.

Deaf Evaluation and Adjustment Feasibility: Guidelines for the Vocational Evaluation of Deaf Clients remains, in 1982, the most comprehensive summary of vocational evaluation procedures for use with deaf people in the United States. The publication is available through the National Association for the Deaf, 814 Thayer Avenue, Silver Spring, Md., 20910. Since 1981, the newly established National Research and Training Center at The University of Arkansas at Little Rock has utilized these and other evaluation techniques through research aimed toward improving the quality of vocational evaluation for deaf people.

The UT Department of Special Education and Rehabilitation, through a 1978 grant from the Rehabilitation Services Administration, sponsored the first national effort toward providing experienced rehabilitation personnel with information and material for teaching severely handicapped deaf people to live independently. Even though substantial material relating to independent living skills was available, much of it was inappropriate for teaching severely handicapped deaf people who might also be illiterate. In some instances, materials were being designed by the instructor.

The national workshop concerning independent living skills for severely handicapped deaf people was held at the Hyatt Regency Hotel in Knoxville, Tenn., on August 13–16, 1979. The primary purpose of the workshop was to enable participants to share materials and experiences in order to increase their competencies in providing independent living skills training to severely handicapped deaf people.

A planning committee, selected to represent diversified programs serving severely handicapped deaf people from throughout the United States, met in December 1978. The trainee selection process began the

following month. Each state director of vocational rehabilitation, through cooperation with the Council of State Administrators of Vocational Rehabilitation (CSAVR) Committee on Deafness Chairman Ben Barker (state director - Delaware), was asked to submit the names and addresses of five persons from the state with some experience and responsibility for providing independent living skills to severely handicapped deaf persons. Applications were returned and screened by the planning committee. Two applicants from each state with experience and direct daily involvement with deaf clients were selected for traineeships. Others were designated as alternate participants. (Administrative persons were invited at their state's expense.)

The planning committee designed a program along eight sub-topic areas considered to generally represent the independent living skills spectrum for deaf people. Participants were requested to bring materials based upon the defined areas and at the appropriate client level. The areas were (1) basic assessment of independent living skills, (2) health hygiene, (3) social/interpersonal behavior patterns, (4) job practices, (5) money management/budgeting, (6) family responsibilities, (7) community awareness, and (8) legal awareness.

Through the efforts of the RSA Office of Communicative Disorders and the ten federal regional representatives in the area of deafness, a list was compiled of programs throughout the United States which dealt with at least some of the areas of independent living skills. Each of the program directors was invited to submit materials and curricula to teach independent living skills to deaf persons, and the planning committee received a large quantity of material. Presenters were invited to share highly rated materials.

Invited participants were requested to bring materials that could be shared in concurrent small-group sessions at the workshop. The program was designed to minimize large plenary sessions and encourage smaller group interaction in order to share material. Presenters were designated for each sub-topic, and time was provided for the session chairperson to elicit material from other participants.

The planning committee discussed an evaluation process and concluded that both immediate and follow-up workshop evaluations should be designed. The first instrument was designed to assess the workshop participants' immediate opinions of the value of materials in each specific area, as well as their opinions of the overall worth of the workshop. Approximately 60 percent of the participants completed this evaluation form, and the response was extremely positive. Most negative comments reflected the feeling that there was not sufficient time available to obtain full benefits from the conference.

The planning committee felt that the conference would be more accurately evaluated after participants had returned to their work settings and had begun to apply the materials and information obtained at the

conference in working with their clients. The follow-up study (an eight-week post evaluation) was conducted among a randomly selected sample of the workshop participants in October and November 1979. Respondents indicated that they were making extensive use of the materials and ideas obtained at the ILS/Deaf workshop. The areas of independent living skills identified in this workshop are currently being utilized in the National Independent Living Skills Project at the Alabama Institute for the Deaf and Blind to develop independent living skills to be used with both deaf and blind rehabilitation clients.

The proceedings of the workshop, published in July 1980 by the American Deafness and Rehabilitation Association as Monograph No. 5 of the *Journal of Rehabilitation of the Deaf*, was entitled *Independent Living Skills for the Severely Handicapped Deaf Person Preparing to Enter Gainful Employment*. This publication can be purchased from ADARA, 814 Thayer Avenue, Silver Spring, Md. 20910.

The series of articles presented in this monograph of the *Journal of Rehabilitation of the Deaf* was developed by faculty and staff of the University of Tennessee during the fall of 1982. The programs described in these articles are the results of leadership efforts by former and present staff members of the University and the Tennessee School for the Deaf, as well as the contributions by federal and local government agencies and other professionals in the field of deafness. The ultimate success of these programs can only be measured by the positive impact made by the thousands of former participants/students on improved life styles for all deaf and hard-of-hearing citizens.

FOCUS: DEAF EDUCATION AT THE UNIVERSITY OF TENNESSEE

OLGA M. WELCH

"You should hear what you are missing" read the advertisements for early detection of hearing loss. These and other warnings have tended to focus greater public attention on the isolation from mainstream communication which a loss of hearing can bring. Paradoxically, such awareness seems long overdue when the number of Americans suffering some form of deafness is considered. Though schools and programs for the hearing impaired have existed in the United States since 1817, the field of deaf education remains for the public a relatively unknown phenomenon.

The Education of All Handicapped Children Act (P.L. 94-142), however, has provided special education and deaf education the federal mandate and visibility required to stimulate greater public involvement. As a result, hearing-impaired individuals have been the beneficiaries of improved educational opportunities while the demand for special training for teachers has also grown.

To address this demand, several colleges and universities have established teacher training programs. Among the oldest of these is the one established at The University of Tennessee in 1935. Both graduate and undergraduate degrees in deaf education are awarded in the following instructional specialization areas:

- early childhood
- elementary education
- secondary education
- multi-handicapped education

This provides students with both state certification and certification in one of the specialization areas as well.

National certification through the Council on Education of the Deaf

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Olga M. Welch is an assistant professor in the Department of Special Education and Rehabilitation, The University of Tennessee, Knoxville, and currently directs the graduate and undergraduate programs in deaf education. A Phi Beta Kappa graduate of Howard University and The University of Tennessee, Dr. Welch has taught at the Model Secondary School for the Deaf (Washington, D.C.) and the Tennessee School for the Deaf, where she also served as supervising teacher of the middle and high school departments.

is also available at The University of Tennessee, the only such accredited program in the state.

Historically, provision of a well-rounded academic experience to students has been the major goal of The University of Tennessee Deaf Education Program. That goal is reflected in the diversity of its curriculum and in the faculty's commitment to preparing quality educators in deafness.

Students receive intensive study in the psychological, sociological, and physiological implications of deafness with particular emphasis on their relationship to the instruction of the hearing impaired. In addition, extensive experiences are provided in developing language and reading materials for hearing-impaired students in each of the four specialization areas already mentioned.

Emphasis on application of theory and methodology is stressed in both the practicum and student teaching experiences. In classrooms with both hearing and hearing-impaired learners, students are given the opportunity to gain first-hand knowledge of current instructional techniques and procedures. Such experiences prove invaluable in "demystifying" classroom instruction while providing students with the opportunity to acquire additional skills and improve those already possessed.

One of the most unusual practicum experiences is provided through The University of Tennessee Speech and Hearing Center. An internationally famous training facility in speech training for the hearing impaired, the Verbo-Tonal program at The University of Tennessee provides services to both hearing-impaired children and adults. As a practicum site, the center trains students in the Verbo-Tonal method of auditory training, language development, and speech instruction. This, combined with courses in manual communication, prepares deaf education majors to serve a diverse hearing-impaired population.

In addition to excellent student teaching opportunities at the Tennessee School for the Deaf (Knoxville), students with exceptional academic and practicum records may select an out-of-town placement for student teaching in sites across Tennessee and in six additional states.

Through a varied curriculum students broaden their understanding of the complexity of the field of deafness and, hopefully, better prepare themselves to make viable contributions. This process is greatly facilitated by faculty monitoring of student progress. Deaf education majors experiencing academic difficulties are counseled individually by faculty members and follow-up meetings are scheduled to provide any further assistance needed. In this way, students receive tangible assurance of faculty concern and commitment to their academic achievement.

The University of Tennessee graduates in deaf education are

employed in positions in deafness throughout the United States and in several European and Latin American nations. In the annual follow-up evaluation, graduates continue to contribute to the improvement of the deaf education program by offering candid assessments of its strengths and weaknesses as well as pragmatic suggestions to assist in course revision and development. Completed within a year of graduation, the evaluation results are utilized by the faculty in deaf education to assess the effectiveness of the program of study as well as its applicability to the "real world" of classroom instruction for the hearing impaired.

In an effort to make the teacher training program in deafness more responsive to community needs, the Department of Special Education and Rehabilitation regularly sponsors consultants to the Tennessee School for the Deaf as well as to other educational programs across the state of Tennessee. Indeed, members of the deaf education faculty assisted in the development of both the Language and Reading Curricula at the Tennessee School for the Deaf as well as providing inservice to teachers in other Tennessee-based education programs.

Summer Institutes

Summer institutes focusing on topics of stated interest to teaching professionals are offered. These workshops, featuring university faculty and out-of-town consultants, are designed to give educators of the hearing impaired access to the most current research and methodology available in the field.

The Student Organization for Deaf Awareness

Through the Student Organization for Deaf Awareness—a club founded by students and sponsored by members of the deaf education faculty—majors in deafness are encouraged to involve themselves in outreach efforts. Several have become active participants in the life of the deaf community in Knoxville and, as a result, are instrumental in helping to secure greater services for deaf consumers.

Conclusion

Although public awareness of the unique problems of the hearing impaired has grown slowly, that awareness has provided for hearing-impaired consumers continuously improving educational opportunities. At the post-secondary level, it has led to the development of ever-expanding and more sophisticated programs for teacher preparation in deafness. At The University of Tennessee, this progress toward excellence continues.

THE INVISIBILITY OF DEAFNESS

G. DOUGLAS TYLER

Initially, it might appear paradoxical to describe deafness in terms of our visual sense. However, such an association is not only appropriate, it is crucial when describing the full effects of deafness on personal development. Not to completely understand that which we do not see is an experience common to most of us. The hearing-impaired community is a prime example of a sector of society often misunderstood because of something we cannot see—a hearing loss. The link with our communicative environment is our hearing, and speech is its by-product. Without effective use of these tools, our social, emotional, and cultural development becomes skewed and our relationships with others are different.

There are at least 14 million hearing-impaired persons in the United States, and of this number over 2 million satisfy the definition of being deaf (Benderly, 1980). There are two ways to approach a definition for deafness. The majority of us think of this condition in terms of a physiological anomaly or auditory impairment; that is, there is less than normal ability to hear. As Moores (1982) states, "Deafness refers to the condition of individuals whose hearing is disabled and is expressed in terms of speech or other sounds calibrated for frequency and intensity" (p. 6). Such a definition can be sub-divided into general categories identified by decibel levels; these categories are commonly used in making judgments regarding educational placement. A deaf person is, therefore, one who is unable to process speech through his ear with or without the use of a hearing-aid.

Secondly, we can think of deafness in a functional sense. Deaf people are those persons whose auditory channels are not their primary means for language development and communication. This is the point at which the invisibility of deafness becomes visible, manifesting itself

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G. Douglas Tyler is assistant director of the Orientation to Deafness program at The University of Tennessee, Knoxville. His areas of specialization include training in American Sign Language and counseling. Prior to joining The University of Tennessee, Mr. Tyler was high school counselor at the Marie H. Katzerback School for the Deaf in West Trenton, N.J. He is currently pursuing a Ph.D. in counseling psychology.

in a debilitating manner via resultant handicaps such as social isolation and language deficiencies. Whereas the study of a hearing impairment is often seen in terms of the audiological definition, work with deaf people in educational and rehabilitation settings must focus on these and other resultant handicaps. Whether approaching deafness (working with deaf people) from a habilitative or rehabilitative viewpoint, one must first understand that the inability of deaf people to hear is like only one piece of a complex puzzle, and focusing entirely on this one factor obscures the true picture. In our search for explanations about a hearing loss, and more importantly the effects of having one, we often compare senses, groping for an analogy to clarify our clouded perceptions. As difficult and unfair as it is to measure the importance of hearing vs. vision, so is it unfair (and potentially damaging) to equate the remediation techniques of each.

A hearing aid, in most cases, does not ameliorate hearing as glasses do vision for the majority of persons with visual problems. This fact has particular impact on those who have severe-profound losses and whose condition is a sensori-neural one (locus of disability between the inner ear and brain). When one considers such critical factors as the age of onset, age of diagnosis, hearing threshold, etiology, and educational background, the potential resultant handicaps become numerous. A minimum description of this population should include these issues (Quigley and Kretschmer, 1982). The effects on the individual and personal development result in the focus on the hearing loss being replaced by adaptations within society. This disability prevents conforming to "normal" communication means in most severely hearing-impaired people. Thus, there are many factors to consider when working with the hearing-impaired population beyond that of auditory capabilities.

Herein lies the basis for specialized training of persons working with the hearing-impaired population (hard of hearing and deaf included). The Orientation to Deafness (OTD) Program, located in the Department of Special Education and Rehabilitation at The University of Tennessee, was established in 1963 to assist state rehabilitation agency personnel by increasing their professional skills to appropriately serve the hearing-impaired population. In 1973, Congress amended the Rehabilitation Act to include a mandate which placed emphasis on serving the severely disabled population. Deafness is considered to be a severe disability and, thus, was included in this prioritized group. The deaf client historically has presented unique challenges to service providers because of distinctive communication needs and educational and cultural differences. These differences affect all disciplines within rehabilitation including diagnosis, evaluation, physical restoration, personal adjustment, independent living, mental health, and job placement.

Program Content

The Orientation to Deafness Program takes a multi-faceted approach toward an intensive education of deafness service providers. The program centers around five major areas, taught in five corresponding courses over a one-quarter period. In addition to the five core courses, extensive use of community rehabilitation and educational facilities enable trainees to observe and become familiar with deaf clientele and rehabilitation techniques currently being used in local, regional, and national programs. During each ten-week training session (held each fall and spring quarter according to the University calendar), this program provides each trainee with a basic working knowledge of sign language communication; audiology, psycho-educational implications of deafness; social/cultural implications of deafness in the rehabilitation process; and practicum experiences with a deaf teenager and adult, including the development of an Individualized Written Rehabilitation Plan (IWRP) for each. For trainees who have demonstrated competencies in one or more of these five areas, alternate courses are available, such as advanced sign language, interpreting, deaf-blindness, rehabilitation counseling, vocational evaluation, and language development of the hearing impaired.

The majority of rehabilitation personnel work specifically in one area of rehabilitation such as vocational evaluation, personal adjustment placement specialist, or field counselor. The content of the core courses comprising the OTD Program is necessary for a person functioning in any of these disciplines. The objective of the trainees is to secure sufficient theoretical knowledge and practical exposure to work with deaf people and interface this with the vocational rehabilitation process. Each trainee is expected to have basic competencies necessary to perform specific services with this population.

The five core courses cumulatively encompass the fundamental areas mentioned above of age of onset, etiology, and threshold of hearing. They are analogous to the spokes of a wheel which emanate from the hub—or communication skills. The following is a description of the core courses specifically designed to provide this training.

Sign Language Instruction: The language most commonly used in the deaf community is American Sign Language, which has linguistically been defined as a language in its own right. Emphasis is placed on acquisition of conversational American Sign Language skills—particularly the trainees' receptive skills. Class meets seven hours a week and is enhanced by the trainees' participation in various activities outside the classroom. Strong emphasis is placed on the trainees' association with deaf people in their spare time.

Audiology: Although it is not expected that the trainees possess an in-depth practitioner's knowledge of audiology, this course (taught by a clinical audiologist and specifically designed for the rehabilitation service

provider) does help trainees to gain insight and appreciation of the otologist's and audiologist's roles in the rehabilitation process. The subjects of ethnology of deafness, medical intervention and treatment, anatomy of the ear, and fitting of hearing aids are covered.

Introduction to Education and Psychology of the Hearing Impaired: This course offers insight into the philosophies of education and the nature of deaf culture as well. Trainees spend approximately 30 hours in classroom observation at the Tennessee School for the Deaf and other local education and rehabilitation facilities serving all ages of deaf people. Because the environment in which the majority of deaf children grow up is different from that of public education systems, the OTD Program feels it is important the rehabilitation service provider have a working knowledge and understanding of the various educational methodologies and philosophies in use with hearing-impaired children. This is particularly true in regard to residential schools for deaf children.

Vocational Guidance with the Deaf: This course deals primarily with the rehabilitation process from case finding through placement and follow-up of deaf clients. Indepth discussions of psychological and sociological aspects of deafness are included in addition to community resource development. Before attending the program, each trainee is asked to complete a pre-program assignment which requires a person to survey and collect data from his/her local area, including population of hearing-impaired citizens, educational programs available, rehabilitation facilities, interpreting services, etc. This provides the trainee with up-to-date and applicable information to be discussed and analyzed during this course and then used upon returning home.

Practicum: Each trainee is assigned two rehabilitation clients—one from the caseload of the local rehabilitation counselor for the deaf and one from the caseload of the vocational rehabilitation counselor at the Tennessee School for the Deaf in Knoxville. Each trainee meets with each client a minimum of 20 hours and periodically reviews both of the clients in practicum sessions, which serve as simulated case staffings. In essence, this exercise combines the trainees' prior experiences with the information provided in courses developing case management skills, a written rehabilitation plan (the rehabilitation equivalent of an IEP), and evidence of understanding the rehabilitation process as a result of working with hearing-impaired people. An obvious by-product of this course is interaction with deaf people and practical use of learned communication skills.

In addition to these five core areas, field trips are taken during the ten-week session to various rehabilitation programs offering services to the hearing-impaired population. Each fall the trainees travel to the Southeastern Regional Institute on Deafness, a conference which highlights up-to-date rehabilitation and educational principles, philosophies, and services with hearing-impaired people. Also, each class travels to Washington, D.C., to visit Gallaudet College, the only liberal arts college for the deaf in the world, and St. Elizabeth's Psychiatric Hospital, which has a ward for emotionally disturbed deaf adults. On this trip a stop is also made at the Woodrow Wilson Rehabilita-

tion Facility in Fisherville, Va. Many of the trainees attending the OTD Program either do or will support clients in attending Gallaudet College. Counselors' visits to the schools where they send clients greatly enhance not only the knowledge they have about the respective schools, but also the appropriateness of a school for an individual client.

Mental health services for deaf persons in the United States are best described as being in an "infancy state." There are very few places in the country where qualified persons (competent in American Sign Language and knowledgeable of the psycho-social dynamics of deafness) provide effective mental health services to deaf people. St. Elizabeth's, however, is one such institution which is making great strides in closing this gap. The Woodrow Wilson Rehabilitation Center in Fisherville, Va., provides trainees with a model program in terms of facilities and innovative programs designed for deaf and hard-of-hearing people.

The obvious importance of communication skills when working with deaf people necessitates heavy emphasis on this area during the training session. In addition to the formal course work mentioned above, each training group participates in a 48-hour intensive communication skills workshop. This "Total Immersion Program" is a structured weekend workshop at a retreat in the Smoky Mountains in which all persons involved use manual communication as their *only* means of communication. No speech is allowed, and the trainees enter deaf culture for a brief time. A unique aspect of this training program is its use of members of the Knoxville deaf community as instructors. Literally every bit of communication, from "Good Morning" to "Lights Out," is carried on in this manner.

A beneficial by-product of this exercise is the direct association trainees have with deaf adults in the Knoxville community. The staff of the OTD Program strongly encourages trainees' interaction with deaf people in the community. This is the truest learning environment available to any person. An appropriate analogy would be the American student who lives and interacts with French people in France. Cultural influences, colloquial expressions, and regional variations are just a small part of what is acquired in this natural learning environment. The most obvious factor to which hearing persons have to acclimate themselves is receiving language through the visual sense. Because of this fact, the receptive learning process is the most difficult task in acquiring sign language skills. The more "natural" the interaction with deaf people, the more refined a person's skills will be.

The vast majority of trainees entering the OTD Program are presently employed and have a strong need for information, techniques, and skills which are practical and of immediate benefit. To combine such a need within a realistic environment, classes are held two days a week at the Tennessee School for the Deaf (TSD) in Knoxville. Trainees are then able to interact with students at the school and gain onsite exposure to a

residential school's educational process and environment. All facets of deafness-related education at The University of Tennessee are fortunate to have a very strong, mutually beneficial working relationship with the TSD administration and staff.

Nationally prominent persons in the field of deafness are also invited to speak to the OTD trainees each session. Using a lecture/workshop format, this program, known as "Spotlight on Deafness," provides professionals in the Knoxville area and trainees with the most up-to-date information in various fields such as research, education and counseling methodologies, working with the minimal-language-skill adult, mental health, etc. Following a presentation to the general public, each speaker meets with OTD trainees the following day for a day-long workshop in the speaker's area of expertise.

Evaluation

Of significant importance to the continuation of this program is its evaluation component. Upon completion of the training session each trainee is asked to provide feedback regarding the appropriateness of each phase of the program. Subsequent improvements are a direct result of this process which includes: (1) an individual anonymous evaluation, (2) a group brain-storming session on ways to upgrade the program for the benefit of future trainees, and (3) a meeting between the staff and each individual student. In this final meeting the staff provides each trainee with an assessment of the degree to which he/she fulfilled the program requirements and the student has the option to comment on the effectiveness of the staff members and program in meeting his/her needs and expectations.

In addition to this three-fold process, each December a follow-up questionnaire is mailed to all trainees who have attended the program during the past five years. This annual study provides feedback on a number of issues, one of the more important being a needs survey in regard to areas in which further training would be beneficial. The two most recent surveys have indicated high interest in areas including further training in American Sign Language, deafness and mental health, deaf-blindness, and work with multi-handicapped deaf persons (Tyler, 1981, 1982). Thus, those who have completed the OTD program continue to provide meaningful input (regarding program content for a five-year period) from their employment perspective.

The 1982 study indicated over three-fourths of those responding (response rate of 84 percent) remain in deafness related employment, and over two-thirds responding are still in rehabilitation oriented employment (Tyler, 1982). These figures indicate that deafness rehabilitation personnel in the Southeast are remaining in their positions and providing a solid base of service provision. Because of the extraordinary length of time necessary to acquire American Sign Language skills,

these figures should be reflected in upgraded services as these persons continue in their positions and improve their skills. It is not surprising that the past two annual studies clearly indicate the major interest of skill improvement in former trainees is further American Sign Language training. Such skill is the common thread in providing effective services in any area of deafness.

Conclusion

This ten-week training program for rehabilitation and other deafness related disciplines provides an intensive "orientation" to deafness and deaf people. The foundation of training is based on the handicaps resulting from deafness and is approached from a didactic model including classroom and experiential learning situations.

In addition to the training program outlined here, the Orientation to Deafness Program also serves the Southeast Region in a consulting role, providing information and references for organizations, agencies, and individuals. It is the goal of this program to provide the most in-depth training to the most people and ultimately provide more experienced and qualified persons to work with deaf people.

Such a base of experienced service providers mentioned above will face stern challenges in the immediate future. The rubella epidemic of 1963–65 has significantly increased the population of deaf children now 17–19 years of age, and thus up to twice as many young deaf adults as usual will be entering society upon graduation. This population is replete with multi-handicapped persons requiring in-depth services. However, current staffs in rehabilitation agencies around the nation are being reduced. This reduction, coupled with a sharp increase of clients needing more specialized services, provides the deafness rehabilitation field with formidable challenges never before experienced. This fact is certainly not an invisible one, as we have seen it approaching for the past 19 years.

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THEY'RE NOT ALL HELEN KELLERS...

NORMA TEDDER

When hearing the term *deaf-blind person*, most people think, "Oh, like Helen Keller!" Not only are the vast majority of deaf-blind persons *not* like Helen Keller, but deaf-blind people are not, for the most part, totally deaf and totally blind.

In response to the rubella epidemic which swept the country in the mid-1960's, P.L. 91-230, Title VI, Part C, established Regional Services Centers for Deaf-Blind Children and Youth. Children to be served are those who have

> . . .auditory and visual handicaps, the combination of which causes such severe communication and other developmental and educational problems that they cannot be properly accommodated in special education programs solely for the hearing handicapped child or for the visually handicapped child.

The children served through this legislation do not have to be totally deaf and totally blind. In addition to auditory and visual handicaps, a rubella syndrome child often has retardation, heart defects, seizures and any number of other handicaps. It has also become obvious that there are deaf-blind children of other etiologies such as mumps encephalitis, meningitis, syphillis, cytomegalovirus, prematurity and "unknown." Regardless of etiology or age of onset or additional disabilities, a dual sensory deficit is a devastating handicap. P.L. 91-230 was created in acknowledgement that such handicaps require comprehensive interdisciplinary intervention in order to provide compensatory education.

The Regional Centers for Deaf-Blind Children and Youth assisted individual states in establishing programs and securing appropriate in-service education for parents and professionals. One of the emphases of all deaf-blind programs was preparation of students for post-

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Norma Tedder came to The University of Tennessee in September 1981 to become coordinator of the Deaf-Blind Project. She previously initiated a deaf-blind program for Minnesota State Services for the Blind and Visually Handicapped. She has been involved in rehabilitation of the visually handicapped for 15 years. She also works with groups of parents of handicapped children and is a Certified Reality Therapist.

educational activities such as vocational rehabiiitation and independent living.

Simple arithmetic reveals that deaf-blind children born in 1964 were 18 years old in 1982. They had either completed their educational caree: or were involved in their final three years. Preparation of personnel to serve deaf-blind persons must now shift from the educational setting to rehabilitation and social service agencies that work with adults.

In 1981, the Department of Special Education and Rehabilitation at The University of Tennessee secured a three-year grant from the Helen Keller National Center for Deaf-Blind Youth and Adults to devise a curriculum and provide coursework for persons who will be serving deaf-blind adults. This is the first project of its kind in the nation.

The project must prepare personnel to meet the needs of both deaf-blind children when they become adults and adults who *become* deaf-blind. To illustrate the diverse needs of deaf-blind adults, the following four categories are useful:

Congenitally deaf-blind—a child who is born with vision and hearing deficits or who acquires them neonatally. The etiology may be hereditary, a disease process, or injury. A child with rubella syndrome is an example of this type of deaf-blind person. Hearing is diminished or absent prior to the development of language.

Adventitiously deaf-blind—a person who loses hearing after two years of age and also loses vision after the neonatal period. Example of etiologies for this type of deaf-blindness might be a stroke, brain injury from an automobile accident, or a disease process. The vision and hearing losses occur relatively simultaneously.

Deafened-blind—a person who was congenitally or neonatally visually handicapped and has functioned for an extended period as a visually handicapped person. Deafness was acquired post-lingually, due to injury, disease, or heredity. An example would be a person with congenital glaucoma who later loses hearing due to mumps encephalitis.

Blinded-deaf—a person who was congenitally or pre-lingually deaf and has been educated as a hearing-impaired person. The loss of vision may be due to heredity, disease, or injury. The best known example of this type of deaf-blindness is Usher's Syndrome in which there is a hereditary congenital loss of hearing and a progressive, hereditary loss of vision beginning in childhood or adolescence known as retinitis pigmentosa.

The needs of the persons in each category are different in terms of intervention required. The *congenitally deaf-blind person* is usually multiply handicapped and is often intellectually impaired. This person will require early intervention and on-going comprehensive services and is unlikely to function independently in vocational or living environments.

The *adventitiously deaf-blind person* may have all other senses and capacities intact and will have developed spoken language. However,

the dual sensory loss is still devastating and the trauma involved with its onset is a compounding problem. This person will require both compensatory vision and hearing services including orientation and mobility, braille, and manual communications.

The *blinded-deaf person* has experienced all the difficulties in education and socialization experienced by any deaf or hearing-impaired person. The educational deficits of deaf persons have been well documented. This person has probably developed a form of visual manual communication and must face either an immediate or progressive loss in his/her primary input medium: vision. It is commonly thought that the problem can be solved by fingerspelling into the blinded-deaf person's palm. The reading (and spelling) level of many deaf persons would not provide an understanding of a-v-a-i-a-n-c-h-e or even t-o-r-n-a-d-o. The communication problem may be minor compared to this person's feelings of separation or isolation from the deaf community.

The *deafened-blind person* who knows braille may be at an advantage in terms of a communication skill that will carry over. However, there is still an adjustment to be made to a non-visual world. Also, the loss of hearing usually brings balance problems and the entire system of orientation within the person will require readjustment.

The previous discussion of the needs of various types of deaf-blind persons is intended as an overview and is certainly neither exhaustive nor definitive. Each deaf-blind person's individual capacities, other disabilities, environment, and desires serve to make an already diverse population even more complicated to serve.

The University of Tennessee project was the first which the Helen Keller National Center funded on a university campus to train personnel to work with deaf-blind adults. Besides course work and in-service training, this project also provides direct consultation regarding deaf-blind adults in Tennessee. Project staff work closely with rehabilitation counselors from the Tennessee Division of Vocational Rehabilitation and Tennessee Services for the Blind. Clients are seen in a variety of settings: schools, rehabilitation centers, jobs, mental hospitals, and day-treatment centers.

Additionally, personnel must be prepared for the emotional impact of working with such a severely handicapped population. No one person can be expected to have the expertise necessary to provide for all of the needs/remediations of all the deaf-blind persons who require service. Very often professionals serving deaf-blind clients become overwhelmed by the enormity of their needs. If this professional has been identified as the "deaf-blind expert," he/she will struggle to master the skills of many professions and experience "burn-out" within two or three years. An even more negative possibility is that the "deaf-blind expert" will fall into the "miracle-worker" trap and believe that she/he should be able to be all things to all deaf-blind clients, failing to involve others in the community who could and should assume partial responsibility

to the ultimate benefit of the deaf-blind client.

With these considerations in mind, the course work at The University of Tennessee has been designed to teach an attitude, rather than an approach. While providing information regarding various techniques appropriate for deaf-blind clients, strategies for involving other resources are explored. The need for a transitional interdisciplinary team, of which the "deaf-blind expert" is only one member, is stressed in order to provide for total life planning for each deaf-blind client. The interaction of such a team is imperative for comprehensive service provision, but is also necessary for mutual support of its members. Potential "deaf-blind experts" are also encouraged to continue to seek satisfaction of their needs for love, worth, fun, and freedom from a variety of personal and professional relationships beyond the interaction with the deaf-blind client(s).

The Deaf-Blind Project is also unique in that consultation is provided regarding any deaf-blind person in Tennessee. Project staff will work with counselors from the Tennessee Division of Vocational Rehabilitation or Tennessee Services for the Blind, rehabilitation centers, educational programs or developmental centers who are serving deaf-blind youth and adults. In many instances project staff will work directly with the deaf-blind person for demonstration purposes.

This client contact translates into course work that is pragmatic and reality based. It also provides the opportunity for The University of Tennessee to interact with personnel from a variety of agencies through Tennessee in a statewide service program.

WORKSHOPS ON MENTAL HEALTH SERVICES FOR DEAF PEOPLE

WILLIAM E. WOODRICK
DONNELL H. ASHMORE

Because of unique communication differences, mental health services appropriate for effective treatment of deaf people—especially those who must be hospitalized because of behavioral problems—are very complex. It is extremely rare for service providers to have even basic sign communication skills, which is frequently the deaf patient's only effective means of both expressive and receptive communication.

Recognizing the serious need for basic awareness of the unique needs of mentally ill deaf people, the Tennessee Council for Hearing Impaired (TCHI) (a state interagency council representing hearing-impaired citizens), in cooperation with the Tennessee Department of Mental Health and Mental Retardation, entered into a contract with The University of Tennessee Department of Special Education and Rehabilitation to provide some orientation for mental health service providers to enhance their awareness of communication differences and the resulting effect on the life style of most prelingually deaf people.

The staff of the Department of Special Education and Rehabilitation and the Tennessee Council for Hearing Impaired designed a two-day training package with a major emphasis on utilization of deaf people as trainers/presenters. The program was designed during the summer, and four workshops were scheduled during September 1981 in Chat-

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William E. Woodrick, a professor in the Department of Special Education and Rehabilitation, The University of Tennessee, Knoxville, serves as director of the Orientation to Deafness Program, the Helen Keller National Center project, and the Southeastern Interpreter Training Consortium, and as a consultant on the Rehabilitation Engineering Center on Hearing Impairment and the National Independent Living Skills Project. He has a specialist degree in rehabilitation counseling from Mississippi State University, has provided individual and group therapy for deaf adolescents, and is experienced as a vocational rehabilitation counselor.

Donnell H. Ashmore, executive director of the Tennessee Council on Hearing Impaired, Tennessee State Department of Human Services, Division of Rehabilitation, received his master's degree in vocational rehabilitation from The University of Tennessee and is a former faculty member in the UT Department of Special Education and Rehabilitation. He has worked as both a vocational rehabilitation counselor and a guidance counselor at the Tennessee School for the Deaf and has served as a systematic human relations trainer.

tanooga, Knoxville, Memphis, and Nashville. In each city, local deaf community leaders and interpreters were scheduled as program participants. The emphasis on use of local community people allowed workshop trainers to identify local persons who might be utilized as community or volunteer resources for future work with deaf mental patients.

Working closely with the regional staff training directors from the Department of Mental Health and Mental Retardation, invitations to the workshop were sent to staff in all state developmental centers, mental health centers, as well as many public and private treatment programs. From an extensive search of the literature on mental health and deafness, 35 articles pertaining to resources and methodology for providing mental health services to deaf and mental patients were selected for duplication. Copies of these articles were combined in loose-leaf notebooks with copies of an index entitled "Mental Health Services for Deaf People: A Resource Book" (see Figure 1). Each workshop participant was provided the material as an avenue for further exploration and a resource for locating interpreters, programs, and consultations for future reference.

The Workshop Plan

The workshops were planned to be experiential with minimal lecture and maximum participation from attendants with the predominantly deaf activity leaders. Activities in which workshop attendants participated included "Deaf, Deaf World," a game in which a simulated community was set up with stations (airport, hospital, hotel, etc.). Participants, without the use of speech, are challenged to earn points at each station by communicating non-verbally with the deaf station manager to earn points. A debriefing session results in a discussion of insights gained through frustrations in communication and various coping behaviors utilized by participants.

Another participating activity included preparing and eating a light lunch without the use of speech. To some extent the participants had the opportunity to experience a social situation in which communication is limited to vision and gestures. A third activity involved psychodrama in which situations were acted out by workshop attendants assuming roles as parent, psychologist, supervisor, or nurse, with a deaf person portraying the mental patient. Some of these situations demonstrated use of an interpreter, examples of behavior utilized by some deaf people for communication, and possible attitudes between deaf patient and hearing service provider when communication is not established. Other situations were designed requiring group problem solving with a deaf person serving as an integral part of the small group session. A variety of communication aids and alerting devices utilized by deaf people were demonstrated by deaf people. Workshop trainees were provided a "hands-on" experience utilizing these devices.

Each learning activity was followed by group discussions with program participants and workshop attendants commenting on both appropriate and inappropriate solutions to some of the situations presented. A limited amount of workshop information was presented in lecture format. This included a description of the life styles of deaf people resulting from past educational programming, the relationship of American Language to cultural differences, and some components necessary for effective treatment of deaf people. In summary, the program was geared both toward the reasons deaf patients have special needs and the resources within the community for meeting these needs.

The Workshop Results

In order to measure specific information gained from the workshops, objective pre/post tests were prepared. The tests were distributed at the opening and final sessions of the workshop. Close to a hundred people completed and returned both tests.

The test instruments consisting of 20 items included both true and false and multiple choice questions. Validity and reality were not established prior to its use in the workshop; however, data were collected regarding differences with individual pre/post-test scores.

A paired T-test conducted on the pre- and post-test scores resulting in a T-value of 13.22 with 89 degrees of freedom was statistically significant using a two-tailed test ($P < .001$) showing higher scores on the post-test than the pre-test. The mean increased from 13.6 to 16.8.

Although modifications in program and changes in program presenters were made in each of the four workshops, each individual workshop produced gains according to pre- and post-test scores. (See Table I.)

TABLE I
Gains in Scores for Individual Workshops

	PRE-TEST	POST-TEST	T-VALUE	DEGREE OF FREEDOM	2-TAIL PROBABILITY
A.	13.65	25.58	6.21	25	0.000
B.	13.59	17.09	10.59	33	0.000
C.	13.67	17.28	4.87	17	0.000
D.	13.75	16.00	7.39	11	0.000

The overall workshop was evaluated by participants as being extremely well organized, the staff as extremely knowledgeable and effective in presentation, with 98 percent of the participants indicating an interest in returning for more training. On the other hand, the evaluation results indicated that the participants left with many unanswered questions and felt inadequate to provide effective services to deaf peo-

ple. Many written comments indicated participants gained an awareness of the socio-cultural differences resulting from pre-lingual deafness. The workshop created awareness, however, in that participants did not feel they gained substantial skills for serving the deaf mentally ill patient, which may motivate them to seek additional training or take advantage of existing opportunities to improve their skills. It was not an objective of the workshop to provide skill training to the extent that participants would achieve competence, and it would be unrealistic to attempt to reach such a goal in such a limited time.

In conclusion, the three major objectives of the workshop were adequately accomplished by attendants gaining: 1) an awareness of some unique needs of deaf people (including deaf mental patients), 2) basic knowledge and information on community resources available for serving deaf people, 3) an overview of some socio-cultural aspects of deafness.

Some random observations during the nine months following the workshops indicated that several participants enrolled in local community sign language classes, requests increased somewhat for interpreters from the community interpreter and referral centers for serving in mental health facilities, and several workshop participants contacted the staff at The University of Tennessee Department of Special Education and Rehabilitation for assistance in designing workshops in other local mental health centers and made requests for help in locating sign language instructors.

Figure 1

Material included in the Resource Manual on Mental Health Needs

Directory of Services for the Deaf in Tennessee, 1981
"Mental Health Services and the Deaf Person: A Status Report"
Barbara Sachs Brauer
"Mental Health Services to Deaf People - An Historical Review"
Edna Adler
"Deafness and Mental Health: Some Theoretical Views"
McCay Vernon
"Mental Health and Deafness"
Hilde S. Schlesinger
"Perspectives on Deafness and Mental Health"
McCay Vernon
"The Meaning of Deafness"
Frederick C. Schreiber
"Deaf People are People'
National Technical Institute for the Deaf - Rochester Institute of Technology
"The Primary Causes of Deafness," *They Grow in Silence*
Eugene D. Mindel and McCay Vernon
"The Hearing Loss Handbook"
Richard Rosenthal
"Basic Needs of Deaf People," *The Pelican*
Boyce R. Williams
"Some Hazards of Deafness"
Roy Holcomb

"What is American Sign Language - ASL: A Teacher's Resource Text on Grammar and Culture"

"English in the Deaf Community - ASL: A Teacher's Resource Text on Grammar and Culture"

"Sign Language, Power, and Mental Health," *Mental Health*
Raymond Trybus

"The Impact of the Deaf Child on His Family," *They Grow in Silence*
Eugene D. Mindel and McCay Vernon

"Crises of the Deaf Child and His Family"
Frank Bowe

"A Developmental Model Applied to Problems of 'Deafness'," *Sound and Sign,*
Hilde S. Schlesinger

"Identifying and Programming for the Emotionally Handicapped Deaf Child"
Kenneth Z. Altshuler

"Functions and Impairments to be Considered in What Appears as Simple Deafness" (Modified), Hardley and Bordley

"Behavior and Learning of Rubella Children"
Stella Chess

"Parents of Emotionally Disturbed Deaf Children"
Doris W. Naiman, Gail Turney, and Keith Muller

"Drug Abuse and the Deaf Adolescent"
Reginald L. Locke

"The Deaf Adult," *A Deaf Adult Speaks Out*

"Attitudes of and about Adult Deaf Persons," *Deaf Persons in Professional Employment*

"Deaf People in the World of Work"
Edward C. Carney

"A Look at the Needs of the Aged Deaf"
Carol J. Boggs and R. Orin Cornett

"Improving Communication With the Deaf Patient," *The Journal of Family Practice*
Sandra L.H. Davenport

"The Deaf Community and the Culture of Deaf People," *Culture of Deaf People*
Carol Padden

"Communication With the Deaf Patient," *The Student National Medical Association News*
Ruth E. Jefferson

"The National Registry of Interpreters for the Deaf"
Edgar Shroyer

"Interpreting - Chapter I - Introduction"
Richard Dirst and Frank Caccamise

"Interpreting - Chapter II - RID Code of Ethics"

"Interpreting - Chapter VII - Interpreting Settings"

"Interpreting - Section C: Medical and Mental Health"
Anna Maria Rinaldi, Rita Dominque DeVries, Carol Kirchner, Suzie Kirchner, Frank Caccamise, and Richard Dirst

"Interpreting - Appendix C: Interpreting for Hearing-Impaired Persons With Minimal Language Skills (MLS): Some Suggestions"
Rita Dominque DeVries, Suzie Kirchner and Frank Caccamise

"A Guide to Psychological Tests and Testing Procedures in the Evaluation of Deaf and Hard-of-Hearing Children," *Journal of Speech and Hearing Disorders*
McCay Vernon

"The Psychological Evaluation of Prelingually Deaf Adults"
Roger M. Falberg
"Psychological and Psychiatric Evaluation: A Guide for the Psychological Evaluation of Deaf and Severely Hard-of-Hearing Adults"
McCay Vernon
"Principles of Counseling With Deaf People," *Counseling with Deaf People*
C.H. Patterson and Larry G. Stewart
"Prescriptive Self-Evaluation for School and Rehabilitation Counselors Serving Deaf People"
William P. McCrone and Rudolph E. Gawlik
"The Use of Group Techniques in Counseling at the National Technical Institute for the Deaf"
James L. Collins
"Uses of Groups at the New York League for the Hard of Hearing"
James McMahor
"Group Therapy at the New York State Psychiatric Institute"
John D. Rainer
"Group Counseling With the Non-Communicating Deaf"
Martin L.A. Sternberg
"Mental Health Programs at KDES"
Roxanne Gromelski
"A Mental Health Program for Deaf College Students"
Allen E. Sussman
"St. Elizabeth's Hospital - The Mental Health Program for the Deaf"
"Clinical Services Provided for the Patients of the MHPD"
"The Mental Health Program for the Deaf at St. Elizabeth's Hospital"
Luther D. Robinson
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Staff Members of the Mental Health Program for the Deaf, St. Elizabeth's Hospital
"Interim Evaluation Report - Mental Health/Deaf Program"
Prepared by: Evaluation Committee - Elsie Forrest, Gerald Mann, Ross Moran, Donal B. Schwehn, Neil Sherwood and Burt Winings

PROVIDING SUPPORT SERVICES TO HEARING-IMPAIRED STUDENTS IN HIGHER EDUCATION

MARTHA R. BRYAN
TAMMY S. CANTRELL

An important issue facing administrators and educators in higher education today is that of serving the disabled college student, including the hearing-impaired student. More and more colleges and universities are being faced with hearing-impaired students on their campuses. How does the university serve these students? Who are they and what kind of services do they need? This article explores the provision and coordination of support services for hearing-impaired students in the university setting with specific reference to those support services provided at The University of Tennessee, Knoxville.

The University of Tennessee, Knoxville (UTK) has been providing services to hearing-impaired students since 1975. Through the last seven years, these services have greatly expanded. A brief timetable of the progression of services follows:

1975— UTK became part of the National Interpreter Training Consortium (NITC). Interpreters volunteered their services.

A Hearing-Impaired Student Fund was established through an anonymous contribution. This fund still exists and accepts contributions.

1976— The College of Education provided funds to pay for interpreters for graduate hearing-impaired students enrolled in the College of Education. Later services were extended to undergraduate students in education.

The Department of Special Education and Rehabilitation received an Innovation and Expansion Grant, entitled Job Develop-

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Martha R. Bryan is director of Handicapped Student Services, The University of Tennessee, Knoxville. She is a doctoral student in the Department of Educational and Counseling Psychology with a collateral in the Department of Special Education and Rehabilitation. She is a member of the Association of Handicapped Student Services Programs in Postsecondary Education.

Tammy S. Cantrell has served as assistant to the director of Handicapped Student Services, The University of Tennessee, Knoxville, since 1980. She has an M.A. in educational administration and supervision and is a RID certified manual and oral interpreter.

ment/Communications with Deaf Persons Project, from the Federal Rehabilitation Services Administration in the State Department of Education. This was a one-year grant which provided interpreters for all hearing-impaired students. During the first nine months of this grant, 1,362.05 interpreting hours were provided. The project also developed employment opportunities for hearing-impaired people in the community. This included teaching sign language classes in area businesses. Classes were held at the Tennessee Valley Authority, East Tennessee Children's Hospital, UT Student Counseling Center, and Fort Sanders Presbyterian Hospital.

1977— The Communication/Job Development Project was extended to all handicapped students and funded for an additional year.

1978— The Communication/Job Development Project was funded for one more year.

1979— The services to handicapped students became an official office of the university and moved out of the College of Education and into Student Affairs. The Office of Handicapped Student Services was established to fulfill this mission.

As one can see from this brief history, the services to all UTK's handicapped students stemmed out of the Department of Special Education and Rehabilitation and the services to hearing-impaired students.

Support services in higher education usually come out of "crisis" situations. Very few institutions develop support services for hearing-impaired students and then begin to recruit such students. Generally, support services are established because a hearing-impaired student has an interest in attending the university and requests services or because a student just "appears" and the university has to deal with his/her special needs.

UTK approaches services to all handicapped students in a decentralized manner. Students are encouraged to take advantage of all university services and programs and not just those offered by the Office of Handicapped Student Services (OHSS). This type of integrated approach promotes independence of handicapped students, allowing them to function as much as possible as all students do.

Direct services to hearing-impaired students provided at UTK are discussed below.

Interpreting Services

Interpreting services at UTK are the oldest and best established of the services for hearing-impaired students at The University of Tennessee in Knoxville. Since 1976, UTK has provided interpreters for 69 hearing-impaired students. Upon student or department request, sign language or oral interpreters are supplied for all academic situations, i.e., classes, advising sessions, tutoring sessions, field trips, discussion

groups, etc. In some cases, interpreters are automatically assigned as in the commencement exercises which always have interpreters.

Many institutions face the problem of locating qualified interpreters. UTK is fortunate in that this is usually not the case. There is a relatively large pool of interpreters in the Knoxville area as a result of several factors. Knoxville is the location of the state residential school, the Tennessee School for the Deaf, which brings in many professionals, including interpreters. Maryville College, located 30 minutes from UTK, has a training program for interpreters. But the largest pool of interpreters comes from within UTK itself. UTK has excellent Deaf Education, Orientation to Deafness, and Interpreter Training programs which in themselves draw interpreters to the UTK campus. The majority of interpreters used by the OHSS are students enrolled in, or previously enrolled in, these programs. Thus, the interpreters are accustomed to the university setting and, if students themselves, are already on campus and easily scheduled for interpreting assignments.

The Registry of Interpreters for the Deaf, Inc. (RID), a national organization of interpreters, has an evaluation procedure for certifying interpreters. UTK tries as much as possible to hire and recruit certified interpreters. The majority of UTK's interpreters are certified. Those interpreters who are not yet certified are evaluated "in-house" by a UTK evaluation team. This enables the OHSS to screen interpreters for skill and to appropriately place them in interpreting assignments.

Notetaking

Hearing-impaired students predominantly rely on visual cues for taking in information, making it virtually impossible to take notes. Whenever a student looks down to write, the continuing spoken or signed message is lost until he/she looks up again. The OHSS provides assistance with locating and scheduling notetakers for hearing-impaired students. Notetakers come from a variety of sources. The Department of Vocational Rehabilitation (DVR) financially supports some of the hearing-impaired students which includes funding for the payment of notetakers. For those students not sponsored by DVR, the OHSS uses work study students as notetakers. These notetakers are assigned to classes specifically to take notes for the hearing-impaired student(s). These notetakers are trained in notetaking techniques by the OHSS. There are some students who prefer to find their own notetakers within their classes and make their own arrangements and are free to do so.

Amplification System

Some hearing-impaired students who arrive on campus do not know sign language or prefer not to use interpreters. Many of these students have sufficient residual hearing to enable them to receive enough information auditorily. However, in a university setting with spacious lec-

ture halls, long distances from the lecturer, background noise, etc., the information through the auditory channel is greatly lessened causing the student to miss valuable information.

For this type of hearing-impaired student, the OHSS has purchased an FM Wireless Microphone Amplification system (referred to as the FM system). This FM system consists of a wireless microphone worn around the neck of the speaker-lecturer and an FM receiver worn by the hearing-impaired student. The speaker's voice is channeled through the microphone to the listener's receiver causing the vocal input to remain constant regardless of the arrangement of the room, the position of the speaker, or the presence of background noise. Thus, the hearing-impaired student receives the same or more auditory information as if he/she were in a one-on-one communication situation.

Counseling and Referral

Personal and career counseling services are offered through the OHSS for all handicapped students at UTK. These services are primarily directed, but not limited, to handicap-related issues.

The OHSS acts as liaison between hearing-impaired students and their vocational rehabilitation counselors, professors, advisors, etc., when necessary. Such activities generally include consultation with the student and instructor regarding programmatic modifications, such as special testing or classroom arrangements. In a way, the OHSS acts as an ombudsman to assist the hearing-impaired student with any university-related problem.

The OHSS also acts as a referral center. Because of the decentralized approach, students are encouraged to tap into and participate in all university services and programs. Many students come to the OHSS first seeking help and information and are then referred to the appropriate person or office to meet their needs.

Community referrals are also made. Many persons contact the OHSS for information about services in the Knoxville area and appropriate referrals are made.

Communication Devices

UTK has available several communication devices for student use. In addition to the FM Wireless Microphone Amplification system mentioned previously, the OHSS has a portable telephone amplifying device and several Telecommunication Devices for the Deaf (TDD) placed around campus. TDDs enable hearing-impaired persons to communicate via the telephone through a typewritten message. Four TDDs are located on the UTK campus: in the OHSS, the Department of Special Education and Rehabilitation, the University Center, and the Main Library.

Awareness

Since UTK is such a large university, there is considerable student, faculty, and staff turnover. Thus, the OHSS is involved in continuing awareness programs to sensitize the university community to the rights, needs, and abilities of handicapped students. The goal of these activities is to educate the university to the extent that handicapped students can function as independently as possible. Much of this is accomplished on a one-to-one basis addressing individual, specific issues. Campus-wide activities are also presented. Such activities in the past have included featured speakers, panel discussions, newspaper articles, movies, slide presentations, athletic events, workshops, and simulation exercises.

Summary

The program at The University of Tennessee, Knoxville as outlined here represents a decentralized service approach. This type of approach involves the entire university and enables the handicapped student to gain the total educational experience available to all students. The handicapped student is encouraged to utilize existing services and programs open to all students. This fosters independence for the student while at the university as well as when out in society upon graduation.

THE SOUTHEASTERN REGIONAL INTERPRETER TRAINING CONSORTIUM

MARIE GRIFFIN

Since the beginning of the National Interpreter Training Consortium (NITC) in 1975, The University of Tennessee has been recognized throughout the nation as a center of training interpreters for deaf people in the Southeast. This reputation has been earned and supported through UT sponsored workshops and classes within the region, training opportunities on campus and UT's affiliation with other institutions and organizations across the United States.

National Scope

As a result of the National Interpreters for the Deaf Training Act of 1978 (HR12467 and 5.2600), funding was made available for ten regional interpreter training centers across the country. The University of Tennessee was named one of the ten regional programs beginning in October 1980 and has been approved for funding through August 1985. The ten federally funded regional centers for interpreter training are:

Community College of Denver
North Campus
3645 West 112th Avenue
Westminster, CO 80030

Gallaudet College*
800 Florida Avenue, NE
Washington, DC 20002

Johnson County Community College
College Boulevard at Quivira Road
Overland Park, KS 66210

Madonna College*
36600 Schoolcraft Road
Livonia, MI 48150

Merrimack Valley College*
Rt. 4, Hackett Hill Road
Manchester, NH 03102

University of Wisconsin-Milwaukee
Department of Exceptional Education
P.O. Box 413
Milwaukee, WI 53201

Marie Griffin is coordinator of the Southeastern Regional Interpreter Training Consortium located at The University of Tennessee, Knoxville. She has an M.S. in deaf education, a Comprehensive Skills Certificate from the Registry of Interpreters for the Deaf, and is secretary of the Conference of Interpreter Trainers. Prior to coming to The University of Tennessee, she coordinated the Interpreter Training Program at Chattanooga State Technical Community College and taught for four years in the interpreter degree program at Maryville College.

Ohlone College
Fremont-Neward Community College District
43600 Mission Boulevard
Fremont, CA 94538

Seattle Central Community College
Interpreter Training Program
1801 Broadway
Seattle, WA 98122

St. Paul TVI
Program for Deaf Students
235 Marshall Avenue
St. Paul, MN 55103

University of Tennessee
College of Education
Dept. of Special Education and Rehabilitation
Claxton Education Building
Knoxville, TN 37996-3400

*Programs which began in September, 1982
All others began in September, 1980

Representatives of these programs meet at least annually with the project officer from the Department of Special Education and Rehabilitation Services to coordinate efforts nationwide.

Regional Scope

Continuing its strong tradition of interagency cooperation, The University of Tennessee is unique among regional interpreter training centers in its consortium approach. Through a series of sub-contracts with affiliate interpreter training programs, The University of Tennessee has chosen to use half of its allotted budget to sponsor interpreter training activities in each of the eight southeastern states. One affiliate interpreter training program has been chosen to conduct such activities in each state. The eight affiliates, with The University of Tennessee Department of Special Education and Rehabilitation, constitute the Southeastern Regional Interpreter Training Consortium.

SERITC
Affiliate Programs

University of Alabama
Interpreter Training Program
University College, Building #4, Room 144
Birmingham, AL 35294

Hinds Junior College
Jackson Branch
3925 Sunset Drive
Jackson, MS 38213

Spartanburg Methodist College
Interpreter Training Program
Spartanburg, SC 29301

Chattanooga State Technical Community College
Interpreter Training Program
4501 Amnicola Highway
Chattanooga, TN 37406

Lexington Technical Institute
University of Kentucky
206 Oswald Building
Lexington, KY 40506

Central Piedmont Community College
Interpreter Training Program
P.O. Box 35009
Charlotte, NC 28235

Dekalb Community College
555 North Indian Creek Drive
Clarkston, GA 30021

Northeast Florida Educational Consortium for the Hearing Impaired and Deaf
Florida School for the Deaf and Blind
P.O. Box 1209
St. Augustine, FL 32084

In addition to financial support for interpreter training activities, the University each year provides for staff members of these institutions two to three trainer workshops designed to improve teacher effectiveness; to assist in the production, evaluation, and regionwide distribution of teaching materials; and to share information on curriculum development. A library of video and audio tapes for use in training interpreters is housed at The University of Tennessee and is available to other Interpreter Training Programs to copy or to use on loan. In this way each program is able to concentrate on making a few materials of high quality which can then be shared with the other affiliates. In turn, each program will have access to materials produced by each of the other programs, thereby reducing duplication of effort.

The activities of the SERITC and each program in the consortium are planned to assist in the accomplishment of the following goals:

SERITC Specific Objectives 1982–83

1. To produce a minimum of 66 interpreters with objectively measured levels of competency.
   a. At least 45 trainees will successfully complete local/state interpreter screening test.
   b. At least 21 will achieve National RID Certification.

2. To provide a minimum of 42,000 student contact hours of interpreter training generated through regular classroom activities.

3. To conduct a minimum of 14,000 contact hours provided in workshops and continuing education activities for practicing interpreters, teachers of deaf children, and deaf consumers.

4. To develop and produce at least 40 hours of interpreter training audio-visual teaching materials appropriate for use in classrooms, workshops, or teaching laboratories.

5. To conduct 36 hours of staff development for personnel who teach interpreting. These training sessions will be available to the seven affiliate program trainers and their staff, as well as to other interpreter training personnel within the region or nation who are not affiliates of the consortium.

From September 1, 1981 to March 30, 1982, the SERITC conducted 24,130 contact hours of sign language training, 20,031 contact hours of interpreter training in the classroom, 5,900 contact hours of instruction in related courses (psycho-social aspects of deafness, audiology, etc.), and 15,828 contact hours of workshop activities. Across the region during the same period 27 trainees passed State Screening assessments and 10 achieved some level of certification from the Registry of Interpreters for the Deaf. A total of 935 students (139 males, 795 females, 36 handicapped and 96 members of minority groups) were enrolled in SERITC programs.

On Campus Activities

The University of Tennessee does not offer a degree with a major in interpreting. However, the Department of Special Education and Rehabilitation does offer courses leading to interpreter skills. Students wishing to become interpreters are encouraged to take Special Education 4230 (Sign Language I) fall quarter, 4231 (Sign Language II) winter quarter, and 5555 (Introduction to Interpreting) spring quarter of the same academic year. Successful completion of these three courses prepares a student to enter the short-term intensive Basic Interpreter Training Program (BITP) the following summer.

The BITP, offered each summer, consists of a lab and three courses available for academic credit: Principles of Interpreting, Linguistics of American Sign Language, and Interpreting Techniques. The 1982 program, July 15–August 13, had 17 students from 14 states. Students completing the BITP, which is open to people nationwide who have sign language competence but wish to develop interpreting skills, are encouraged to seek RID certification after one year of interpreting experience. During the BITP, participants study the following topics:

- Role and function of an interpreter
- Interpreting professionalism
- Deaf community and culture
- Interpreting in special situations
  - Platform
  - Educational
  - Medical
  - Religious
  - Mental health
  - Legal
- Oral interpreting
- Interpreting for deaf-blind persons
- Sign-to-voice interpreting

The 1983 BITP is scheduled for June 27–August 5.

Conclusion

Through the activities of the Southeastern Regional Interpreter Training Consortium, the Department of Special Education and Rehabilitation at The University of Tennessee is a major center for the training of interpreters who will be instrumental in overcoming the communication barriers faced by deaf persons.

REHABILITATION CONTINUING EDUCATION: SPECIAL FOCUS ON TRAINING FOR SERVICES TO DEAF PERSONS

JACK L. CASSELL

As an outgrowth of the 1973 Rehabilitation Act, the need for increased activity in the area of training professionals to serve a severely handicapped population became glaringly self-evident. One strategy to fill this need for service delivery expertise was the rehabilitation continuing education concept which came about in 1974. Regional Rehabilitation Continuing Education Programs (RRCEPs) were established in each of Health, Education and Welfare's (HEW) ten regions to provide training primarily to personnel in state vocational rehabilitation agencies.

The RRCEP in Region IV (Southeast) was placed at The University of Tennessee, Knoxville (UTK) in 1974 within the College of Education, Department of Special Education and Rehabilitation. The mechanism for providing training to persons responsible for delivery of client services was an advisory committee and liaison contacts with the states' directors of training. The contact organization within the state was the provider of vocational rehabilitation services. Thus, through these mechanisms, training programs were intrinsically linked to practitioner needs.

In-State and Regional Formats

During eight years of existence, RRCEP has delivered approximately 500 training programs to rehabilitation personnel in the region. Delivery was both by a state-by-state format and a regional format. That is, at times only a certain state's personnel would attend a workshop and at other times each state of the eight would send a set number of persons to a workshop in some city within the region.

The in-state format was primarily concerned with administrative duties, organization, and supervision skills and broad aspects of job performance. The more concentrated focus possible through the regional format addressed the need for training and/or education of the

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Jack L. Cassell is an associate professor in the Department of Special Education and Rehabilitation, The University of Tennessee, Knoxville. He conducts training sessions for personnel in the rehabilitation field through the Regional Rehabilitation Continuing Education Program (RRCEP).

characteristics of persons with various disabilities and the techniques for dealing with their differences. Of the many training areas addressed on the regional level, the one with the greatest concentration of conferences has been the area of deafness rehabilitation.

Deafness Rehabilitation

The emphasis of deafness rehabilitation training has varied among the RRCEPs across the nation. The extent of the UT-RRCEP involvement in this area was revealed in a recent study by the author.

The purpose of this study was simply to assess the extent to which deafness rehabilitation was a training priority for other regions through their RRCEPs. The results showed that two regions stand out as the ones taking the lead in training personnel to better organize and deliver services to persons who are deaf. These two regions are Region IV (Tennessee, Kentucky, North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi) and Region III (Virginia, West Virginia, Maryland, Delaware, Pennsylvania, Washington, D.C.). In terms of the sheer number of programs which were conducted and sponsored by the RRCEPs, Region IV conducted 57 percent of all the training being done nationwide by RRCEPs in deafness rehabilitation. Region III, the next closest region, conducted 19 percent of all the training done nationwide in this area. These figures become significant when one considers that if the involvement in deafness training were evenly distributed nationwide, then each of the ten RRCEPs would obviously be doing one tenth or 10 percent of the training.

Another significant figure is the people involved, i.e., the numbers of participants touched in some way by the training for which the RRCEPs are responsible. At the time of the study, of all the people trained by the RRCEPs nationwide in the deafness area, Region IV trained 74 percent of the total and Region III trained 19 percent of the total. The fact that so many persons attended these conferences on the education and rehabilitation of deaf persons is attributed to UT-RRCEP's involvement and financial support.

The UT-RRCEP's leadership in the nation in deafness rehabilitation is directly attributable to the programs of William Woodrick, which have incorporated contributions from both Doug Tyler and the author. Without Mr. Woodrick's involvement, the UT-RRCEP would not have been as productive as it has been in making Region IV rehabilitation personnel among the best trained professionals in deafness rehabilitation in the nation.

To highlight the extent of UT-RRCEP's involvement in this area, the following describes the conferences and projects coming out of the cooperative efforts mentioned above. These discussions summarize succinctly the knowledge and skill bases which have been acquired by rehabilitation professionals serving deaf persons in the eight states in

the Southeast (RSA Region IV).

1. *Institute on the Education and Rehabilitation of Deaf Persons*—(An annual conference. RRCEP became involved with the sixth conference.)

   a. *Sixth Institute*—Typical Content Areas Covered: The Model State Plan for Deaf Persons' Rehabilitation, Post Secondary Education and Training, Identification of Referral and Other Services. Attendance: Approximately 375.

   b. *Seventh Institute*—Typical Content Areas: Legislation's Impact on Education and Rehabilitation Programs, Communication Skills, Independent Living, New FDA Regulations on Hearing Aid Devices. Attendance: Approximately 350.

   c. *Eighth Institute*—Focus on Barriers—Content: Legal Barriers, Barriers within the Family Unit, Psycho-Educational Barriers, Developing Deaf Advocacy, Removing Barriers through Technology. Attendance: Approximately 750.

   d. *Ninth Institute*—Typical Content: Job Placement, Effective Parenting of Deaf Children, Cultural Contributions of Deaf Persons, Bio-Communication Innovations for the Deaf, Functional Expectations of Cochlea Transplants, Sex Education among Deaf Individuals. Attendance: 400+.

   e. *Tenth Institute*—Typical Content Areas: Early Detection: The Crib-O-Gram, Genetic Counseling, Use of the Verbo-Tonal Methodology, Serving the Adventitiously Deaf Adult, Deaf Clients Speak Out. Attendance: Approximately 430.

   f. *Eleventh Institute*—Typical Content Areas: Impact of Federal Restructuring on Social Programs, Current "Deafness Today" Knowledge, Non-Verbal Communication, Services to Multiply Handicapped Deaf, Medical Developments in Deafness, Interpreting in the Mental Health Setting. Attendance: Approximately 350.

2. *Serving the Rubella Deafened Client*—Purpose: (a) To focus on the general needs and services available for multiply handicapped young adults whose deafness or deaf/blindness is due to rubella; (b) To classify this target population and the appropriate services for their vocational rehabilitation. Attendance: 45.

3. *The Vocational Evaluation of Persons Who Are Deaf*—Purpose: To upgrade and broaden the skill base of vocational evaluators to include the basics of dealing with the unique characteristics brought to the evaluation process by deaf persons. Attendance: 55.

4. *The Organization and Management of Interpreter Services for Deaf Persons*—Purpose: To provide the knowledge necessary for states to organize and manage interpreter services. The conference reviewed various state's procedures for monitoring services and training of persons just entering the interpreting field and provided an overview of legislative requirements that offer interpreting services. Attendance: 49.

5. *Establishing Coordinated Services for Deaf-Blind Clients*—Purpose:

This conference was conducted to establish/initiate some form of regional movement toward establishing a coordinated base for dealing with the population of deaf-blind clients who are to be served by vocational rehabilitation agencies. Attendance: 45.

6. *Rehabilitation Procedures with Deaf-Blind Clients*—Purpose: To provide the professional with the knowledge for proper identification and need for services for this target group and the suggested procedures for dealing with them most effectively. This conference differed from the one above in that this one focused on direct application of procedures for rehabilitation, not the systems requirements as in the above. Attendance: 40.

7. *Aspects of Hearing Impairments: Medical Remediation, Psychological and Vocational Considerations*—Purpose: To provide "hands-on" training to the extent possible in the above areas. Here the trainer was taught the essentials of understanding an ENT exam, differentiating between needed psychiatric and psychological services, genetic counseling, and the use of the JEVS as a tool for vocational considerations. Attendance: 43.

8. *Developing Telecommunication Services for Deaf Persons*—Purpose: Since deaf persons often suffer social, economic, and financial setbacks owing to their isolation, their interface with the society at large is dependent on the establishment and consistent maintenance of a telecommunication system which should operate across the state boundaries as well as within individual states. This workshop was a preliminary effort to move to close the gap between the need and its fulfillment in this area. Attendance: 46.

9. *Facility Services for Clients Who Are Deaf*—Purpose: Since the emphasis on serving clients with severe disabilities came about, facilities have been called upon to share much of the burden for a client's rehabilitation program. This workshop served as an awareness, orientation program to initiate the learning of various professionals in facilities who are charged with serving this population. Attendance: 57.

10. *Deafness Rehabilitation: Client and Services Dimensions*—Purpose: To allow service providers (counselors, supervisors, secretaries) to begin developing an awareness of the uniqueness of the clients who are deaf and to develop very, very rudimentary communication skills (sign language). This was an orientation-awareness program to stimulate further personal growth in this area. The program was conducted three separate times. Attendance: 140.

11. *Advanced Communication Skills for Counselors Serving Deaf Persons*—Purpose: To provide indepth training on a communicative-interpersonal interaction program. Training was provided for the development of skills for establishing a counseling style taking into account the deaf person's symbol structure (i.e., interacting through sign language). Persons with sign language skills were previously trained in the counseling model to later act as trainers in the actual conference. Attendance: 65.

Programs of the nature mentioned above have made professionals in the Southeast among the best trained service delivery personnel in the nation. The training programs, of course, were not ends in themselves; they served as the initiators for other self-directed professional growth in the field.

Worthy of note are two other developments arising from the cooperative efforts of Mr. Woodrick and the author: the Quality Assurance Model and the Interpreter Trainer Assessment Program. The Quality Assurance Model (QA) for interpreters was conceived as a means of screening the interpreters utilized by personnel in the process of rehabilitating deaf persons and facilitating their contacts in important life situations in the "hearing world." Since there can be a great deal of variance among non-certified interpreters, the purpose of this screening model was to assure the use of the best available interpreters who had not yet been certified by the national Registry of Interpreters for the Deaf (RID). It should be noted that if certified interpreters were available, their services would be elicited. The national organization for interpreters (RID) later adopted the QA as a model suggested for state screening purposes prior to an individual's taking the national RID certification evaluation. The QA, it should be noted, in its final form was a joint effort of many professionals in the deafness field who served as a task force through the RRCEP to make it a reality.

Somewhat as an outgrowth of the QA was the Interpreter Trainee Assessment Program (ITAP) within the state of Tennessee. With a grant from the Tennessee Council for the Hearing Impaired to The University of Tennessee, Department of Special Education and Rehabilitation, the author directed the ITAP through the cooperative efforts of the state's chapter of the Registry of Interpreters for the Deaf (TRID), and arrived at the ITAP. The TRID group constructed its own form of the QA process to screen not yet certified interpreters at the national level and to provide a means for assessing the strengths and needed skills on the part of would-be interpreters. The ITAP also gave the state chapters a means for stating the qualification level of interpreters who provided services to deaf persons. The ITAP process was further enhanced with the training of qualified evaluators who would later administer the ITAP. Doug Tyler, Department of Special Education and Rehabilitation, became an evaluator and was instrumental in establishing this process.

Thus, the UT-RRCEP has been a viable program in its attempts to remove many of the barriers confronting deaf persons who would otherwise be severely handicapped in their attempts to develop communicative-interactive links with the "hearing world." In all cases, however, the RRCEP has been but the catalyst, the initiator. The tremendous growth in the Southeast in the deafness field has come about through extensive cooperative efforts of the Department of Special Education and Rehabilitation, the professionals in the field, and advocacy organizations.

EDUCATING THE HEARING IMPAIRED FROM BIRTH THROUGH AGE 21: DEVELOPMENT OF A STATEWIDE PLAN

WILLIAM E. WOODRICK
WILLIAM E. DAVIS
WANDA L. MOODY

The adage "An ounce of prevention is worth a pound of cure" is especially true when applied to the importance of discovering hearing loss in infants. Immediate attention is needed to circumvent lack of communication, a most devastating handicap. When a child does not hear, language does not normally develop. Early and continuous stimulation is essential for both receptive and expressive communication necessary for educational development. Also critical is the need for early acceptance of deafness by parents and immediate attention to the child's communication need.

Thus, early detection and intervention programs for deaf children and their families was given the highest priority by parents, deaf consumers, and educators who contributed to the development of a recently completed statewide plan on educating hearing-impaired children in Ten-

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William E. Woodrick, professor in the Department of Special Education and Rehabilitation, The University of Tennessee, Knoxville, serves as director of the Orientation to Deafness Program, the Helen Keller National Center project, the Southeast Interpreter Training Consortium, and as a consultant on the Rehabilitation Engineering Center on Hearing Impairment and the National Independent Living Skills Project. He has a master's degree in Education of the Deaf from Gallaudet College, has taught deaf high school adolescents, and is involved with the Teacher of the Deaf Education Program at UTK. He is a past president of the Professional Rehabilitation Workers with the Adult Deaf and currently serves on the board of the American Deafness and Rehabilitation Association.

William E. Davis has served as superintendent of the Tennessee School for the Deaf since 1973 and is currently assistant to the state commissioner of education for the education of the hearing impaired. He received his master's in special education from The University of Tennessee and has served as an adjunct instructor in the Department of Special Education and Rehabilitation.

Wanda L. Moody, assistant commissioner, Education of the Handicapped, Tennessee State Department of Education, received her master's degree from The University of Tennessee and has been an adjunct faculty member in the Department of Special Education and Rehabilitation. She served as director of special services in the Knoxville City Schools System, initiating a variety of innovative programs for the education of handicapped children.

nessee from birth through age 21. This plan stressed the need for early detection and intervention programs for deaf children and their families, particularly in rural areas where such services have not previously been available.

Many other areas of need for educational services for hearing-impaired children have been recognized nationally as well as in Tennessee. Because of the range of professional disciplines in the areas of diagnosis, treatment, and education of hearing-impaired children, a statewide plan for meeting these needs must consider diversified professional opinions, as well as the feelings of parents and adult deaf people. Since the University of Tennessee Teacher Preparation Program is the only one in the state recognized by the Council of Education of the Deaf, the University has previously offered assistance in state plans for education of hearing-impaired children.

The University of Tennessee staff in the area of deafness has participated in the planning and development of programs for both deaf children and adults throughout the state of Tennessee for a number of years. In 1970, the staff assisted the state in conducting the Tennessee Governor's Committee addressing the needs of both deaf children and adults in Tennessee. The College of Education assisted the State Department in planning educational services for deaf children in West Tennessee in 1972.

In September of 1981, the commissioner of the Tennessee State Department of Education requested the staff of The University of Tennessee Department of Special Education and Rehabilitation to coordinate a study of present educational programs for deaf children in Tennessee and to design a five-year plan for providing comprehensive educational services to all deaf children between the ages of 0-21. The plan for accomplishing the task centered on involvement of resources and expertise within the state. A contract for coordination of the study was made with The University of Tennessee, Department of Special Education and Rehabilitation. A task force was composed of five persons knowledgeable in the field of hearing impairment, representing a diversity of programs across the state which provide services for hearing-impaired students within Tennessee's geographic regions.

The Task Force

The task force coordinated by The University of Tennessee staff included: (1) an administrator of a large metropolitan school district providing services to 300 hearing-impaired students from pre-school to 12th grade; (2) the resource person to several small and rural school districts throughout West Tennessee providing services to approximately 400 children 0-21 years; (3) a planning specialist with extensive background in a variety of educational services for handicapped children and group process techniques; (4) the executive director of the Tennessee Coun-

cil for the Hearing Impaired, a hearing-impaired consumer advocacy office representing approximately 34,000 hearing-impaired adults in Tennessee; and (5) a curriculum development specialist, Tennessee School for the Deaf, representing 400 hearing-impaired students and an instructional staff of 84. The superintendent of the Tennessee School for the Deaf and the assistant commissioner of education for the handicapped co-chaired the task force.

A basic plan and time line were designed. This plan included a statewide workshop of approximately 50 people. Representatives at the statewide conference were responsible for identifying and prioritizing issues in the education of hearing-impaired students. A second major aspect of the plan included a series of public forums in Tennessee's nine developmental districts in which the general public and professionals could testify to the priorities identified by the statewide workshop, as well as address specific or additional educational needs in that district. These forums were scheduled for January and February, 1982.

The Statewide Conference

The task force met in October to identify participants from throughout the state who could contribute to the identification of major issues regarding the education of hearing-impaired students in Tennessee. An effort was made to maintain a balance among statewide participants by selecting people representing different geographic regions, various educational philosophies, public and private school systems, rural and urban programs, pre-school through secondary and vocational education programs, diagnostic and support services, consumers of educational services including parents of hearing-impaired children, and hearing-impaired people, including representation from minority populations. As a result, approximately 180 persons were recommended to attend. The list of potential representatives was then narrowed down to 50 persons, with alternates for those invited who could not attend.

A total of 57 participants completed conference registration forms. Participants who registered for the conference were asked to designate their role in education of deaf children. Several participants functioned in multiple areas. For example, some administrators also taught deaf children or provided diagnostic (audiological) services. Forty-nine participants designated one primary role, five indicated two roles, while three indicated three different roles. The demographic data on the statewide conference are:

I. EDUCATIONAL PERSONNEL		49%
Administrators	13%	
Teachers	29%	
Higher Education	7%	

II.	SUPPORT PERSONNEL		31%
	Diagnostics	12%	
	Interpreters	7%	
	Others	12%	
III.	DEAF CONSUMERS		10%
IV.	PARENTS OF DEAF CHILDREN		10%

The conference evaluation by participants was extremely positive, indicating excellent success in achievement of objectives. Ten issues were identified by the participants to be addressed in a statewide plan for education of hearing-impaired children 0-21.

The Public Forums

A series of public forums was scheduled in the nine developmental districts within the state during January and February, 1982. Approximately 800 persons attended the public forums and almost 300 individual statements were made. Among the participants, 28 percent were teachers, 23 percent were parents, 9 percent were hearing-impaired persons, 6 percent were diagnosticians, 3 percent were support personnel, and 7 percent were in other categories.

A tabulation of the forum from participants' responses across the state to priority ranking of issues is as follows:

Early Identification/Intervention
Parent Education/Involvement
State Funding Resources
Personnel Training
Statewide Curriculum
Psychological Services
Audiological Services
Career Development
Involvement of Deaf Adults
Tennessee's Geographic/Regional Needs

In the design of a statewide plan, a summary of deaf and hearing-impaired children from the statewide census of handicapped children was made by counties. The report included hearing-impaired and deaf children being served in local education agencies (LEAs) as well as those served by the Tennessee School for the Deaf.

The summary of current services being provided in each of the state's three geographic regions in the areas of early intervention, pre-school, and elementary and secondary level programs was prepared. The population study combined with services currently being provided led to ten major recommendations for providing comprehensive education for hearing-impaired and deaf children in Tennessee.

The Recommendations

Early Identification:

The Department of Public Health (DPH) has revised the birth certificate to obtain information identifying infants at high risk for hearing impairment. The Department of Public Health should continue with implementation of a high risk register and follow up.

The Governor's Inter-departmental Committee should work toward developing a formalized procedure for the reporting of handicapped children to the local school system, which has been charged with maintaining a census of handicapped children ages 0-21.

Early Intervention (ages 0-3):

A program is needed to provide home-based services to deaf infants and their families. The Tennessee School for the Deaf/Berryhill Center currently provides services to approximately 10-15 percent of Tennessee's hearing-impaired infants. This program should be expanded to provide consistent services on a statewide basis.

Pre-School Programs:

The State Department of Education should provide technical assistance to local school systems which are capable of providing a program for hearing-impaired, pre-school children. In situations where the local school system does not have this capability, the State Department of Education should see that this need is met through TSD/Berryhill Center.

Elementary and Secondary Programs:

There is a need for a school program with residential capability for hearing-impaired children in West Tennessee. The State Department of Education should consider developing a pilot program in connection with the Tennessee School for the Deaf/Berryhill Center to determine the scope of population to be served.

Multi-Handicapped Services:

The Governor's Inter-departmental Committee should explore ways to make Tennessee's mental health treatment services available to hearing-impaired children, especially hearing-impaired multi-handicapped children. Consideration should also be given to developing a special unit to provide mental health services to hearing-impaired children who are disturbed to the degree they cannot function in an educational program.

Comprehensive Educational Resource Center:

A committee/task force should be put in place to study and recommend minimum standards for programs for hearing-impaired children.

A Comprehensive Educational Resource Center (CERC) for hearing-impaired children and youth should be expanded as a resource to LEAs. The centers should provide technical assistance to the LEAs and develop a plan which will involve community resources, especially parents and hearing-impaired adults, in the planning of educational programs. The plan should include strategies for coordinating available community, state, and federal resources.

Statewide Curriculum:

The need for a recommended curriculum for hearing-impaired children which can be used as a model for the entire state is a high priority. A language arts curriculum has been validated by the State Department of Education for dissemination. The CERC should make this available and lead in the development of other curricula appropriate to hearing-impaired children.

Tennessee School for the Deaf/Berryhill Center:

(1) Improvement funds should be requested to increase the number of dormitory staff and to upgrade salaries and employment standards.

(2) Improvement funds should be requested to expand the speech program.

(3) Improvement funds should be requested to establish a Behavior Management/Mental Health Program, especially for multi-handicapped children.

(4) A sheltered workshop/vocational evaluation program needs to be established for multi-handicapped children.

(5) Architects need to be appointed by the State Building Commission to make a complete study and design TSD's future development in light of present and future needs.

(6) Improvement funds should be requested to establish a pilot residential school program for hearing-impaired elementary age children in connection with the Berryhill Center in Jackson.

The five-year plan was designed including several specific objectives from the major recommendations, activities needed to accomplish the objectives, agency responsible for activity, along with proposal dates for accomplishment of the objectives.

In April of 1982, the final draft of the statewide plan was submitted to the state commissioner of education and subsequently to the Board of Education. The statewide planning effort was the result of the collaborative efforts of several units within the Tennessee State Department of Education and The University of Tennessee, College of Education, Department of Special Education and Rehabilitation staff. The statewide plan is available through the Tennessee Department of Education, Education for the Handicapped.

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UT'S REHABILITATION ENGINEERING CENTER FOR THE DEAF AND HEARING IMPAIRED

CHARLOTTE FARRAR

A consumer-oriented research and development center working to meet immediate needs of deaf and hearing-impaired people—this is the purpose and objective of the University of Tennessee Rehabilitation Engineering Center (REC) for the Hearing Impaired.

The University of Tennessee Rehabilitation Engineering Center was established with the fundamental premise in mind that the one common characteristic of all deaf and hearing-impaired persons—the inability or difficulty in hearing and understanding both spoken language and sounds necessary for daily living—must not be permitted to prevent them from taking part in and being able to enjoy living and working experiences that are available to non hearing-impaired people. In the past, segregation has occurred, not necessarily because the technology to facilitate communication did not exist, but because the technology was not applied to the problems of hearing impaired, because the technology that was applied was inappropriate to the individual's problem, or because the individual did not know that a device to alleviate his problem existed. The purpose of the REC is to rectify this situation.

The REC attempts to improve the quality of life for deaf and hearing-impaired individuals through (1) applying existing technology to their problems, (2) evaluating existing devices for the purpose of suggesting improvements and recommending for which populations and conditions each device is best suited, (3) determining how training could increase the benefit of a device, and (4) disseminating the information to professional and consumer groups.

HISTORY

In late June of 1982, a Request for Proposals (RFP) for a Rehabilita-

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Charlotte Farrar, administrative coordinator for The University of Tennessee's Rehabilitation Engineering Center for the Deaf and Hearing Impaired, has a master's degree in speech/language pathology. She has been involved in all facets of the REC since its inception, with particular responsibility for the assistive devices exhibit and public relations.

tion Engineering Center for the Deaf and Hearing Impaired came to the attention of Dr. L. Evans Roth, Vice-Chancellor for Graduate Studies and Research, The University of Tennessee, Knoxville (UTK). The Rehabilitation Engineering Center to be funded by the National Institute of Handicapped Research (NIHR) was to develop innovative methods and techniques for applying existing and emerging technology and psychological, social, and vocational knowledge to solve rehabilitation problems of the deaf and hearing impaired. The research was to produce new knowledge, equipment, and devices and systems needed by deaf and hearing-impaired persons of any age.

Realizing the potential of The University of Tennessee to support such an effort, Dr. Roth contacted Dr. Carl Asp of the Department of Audiology and Speech Pathology. Because of his work with the Verbo-Tonal methods of aural rehabilitation of the hearing impaired and his involvement with the development and manufacture of the American-made SUVAG and Mini-SUVAG auditory training units, Dr. Asp seemed to be the person most appropriate to spearhead the response to NIHR's RFP for an engineering center.

Dr. Roth had just received word that his idea of establishing a research incentive fund had been approved. This research incentive fund was used to underwrite most of the costs of preparing the proposal for the Rehabilitation Engineering Center. Without this support, the REC proposal could never have been put together with the efficiency and quality necessary to be competitive. It is a tribute to Dr. Roth's far-sightedness that the first use of this research incentive fund paid off with such handsome dividends.

The first proposal submitted was in final contention for the grant with Gallaudet College, Washington, D.C. and the National Technical Institute for the Deaf at Rochester Institute of Technology, New York, but the award for the three-year grant was made to Gallaudet. However, another RFP was issued shortly thereafter soliciting proposals for eleven other Rehabilitation Engineering Centers across the United States. With a proposal already on the shelf, UT responded by refining and improving the first proposal now that additional time was available.

The second application to NIHR was successful in obtaining the $284,000 grant to establish a Rehabilitation Engineering Center for the Deaf and Hearing Impaired at the University of Tennessee for one year beginning February 1, 1982. This center recently submitted a proposal to NIHR that, if successful, will fund the REC for a 5-year period beginning with the expiration of the current grant January 31, 1983. The administration is optimistic that refunding will occur.

The University of Tennessee was very competitive in attempts to establish a rehabilitation engineering center because of its strong academic and research histories in the College of Liberal Arts Department of Audiology and Speech Pathology, the College of Education

Department of Special Education and Rehabilitation, the College of Engineering with its many departments that could feed into the REC—electrical engineering, engineering science and mechanics (including biomedical engineering), and mechanical engineering. Also beneficial was affiliation with the UT Memorial Research Center and Hospital in Knoxville and with the UT Center for Health Sciences in Memphis, as well as relationships with area high technology industries such as Oak Ridge National Laboratory (operated by Union Carbide), EG&G/ORTEC, Technology for Energy Corporation (TEC), North American Phillips Consumer Electronics, and such engineering resources as Tennessee Valley Authority (TVA) and Aluminum Company of America (ALCOA). Also, the Tennessee School for the Deaf is located in Knoxville, and UTK supports a Hearing and Speech Center that serves approximately 3000 clients per year, not including the out-patient clinic located at the hospital.

OBJECTIVES

Primary projects selected for evaluation during the first year included the SUVAG I group auditory training unit, the Mini-SUVAG wearable aid with vibrotactile input, and tinnitus maskers.

The SUVAG and Mini-SUVAG units differ from conventional auditory training units because of the unique use of filters and the added sensory input provided by a small circular vibrator that attaches to the wearer's wrist. This provides the hearing-impaired person with additional information on rhythmic and intonational patterns of languages.

Tinnitus maskers are instruments that look like behind-the-ear hearing aids and provide various frequencies and intensities of noise to mask or "drown out" the person's tinnitus. Tinnitus is a ringing, roaring, buzzing, or popping noise within the head, heard only by that person unfortunate enough to be afflicted with the condition. Tinnitus is sometimes intermittent, sometimes constant. It is estimated that 32 percent of all U.S. adults have had tinnitus at some time, 6.4 percent reporting it to a degree described as debilitating; 75 percent of all cases of deafness report tinnitus. There are many unanswered questions relating to tinnitus etiology and treatment.

Over the next five years, the REC has proposed to continue evaluation of tinnitus maskers and auditory training units as well as evaluate new developments in hearing aids. With new electronic and computer technology, the hearing aid industry is expected to make changes in commercially available hearing aids over the next few years. Parameters expected to be altered include the frequency response, gain compression, speech enhancement and transducers.

STRUCTURE

To implement achievement of the stated goals, the REC was divided into three primary components: Electroacoustic Laboratory,

Psychoacoustic Laboratory, and Demonstration and Training Division. A fourth component, Consumer Affairs, was added in the proposal for 1983–88.

Electroacoustics Laboratory

The purpose of the electroacoustic laboratory is to evaluate (test) and to improve (modify) the design of existing devices and to develop the prototypes of new devices which are now, or could be, used to aid deaf and/or hearing-impaired persons in the identified areas of need. Electroacoustic evaluation can be described as the electronic electrical analysis of equipment. Does it operate in the best way for what it was designed to do? Using advanced electronic, mechanical, and computer technology, devices will be tested for their performance and reliability. Modifications to existing devices or completely new devices may be designed, e.g., better signal-to-noise ratio, less distortion, smaller, lighter, and less complex units, etc. Performance will then be re-evaluated.

The objectives of the electroacoustic laboratory will be to evaluate and identify any deficiencies in the target devices, to identify the potential for modifying and improving these devices, and for development of new devices to meet identified needs. The electroacoustic lab also provides specifications for the modified and developed devices, and determines if the performance of these devices fulfills the required specifications and functions as expected.

Psychoacoustic Laboratory

Since a device may perform as it was designed and assembled to perform without fulfilling the purpose for which it was conceived, it is the responsibility of the psychoacoustic laboratory to determine if a device (original, modified, or newly developed) actually benefits the consumer to the degree anticipated. The psychoacoustic laboratory also can determine for which population and under what conditions the device is not beneficial. This requires analysis of the device, analysis of the client's needs and analysis of the environment(s) in which the device will be used.

In identifying the conditions/devices which minimize the effect of noise/reverberation in the environment, which can improve speech perception, the psychoacoustic lab can make suggestions for modifying the device that will increase its usefulness for the hearing-impaired person.

Demonstration and Training

The Demonstration and Training Division was established to conduct long-term analysis of a device's utility and to determine if training will aid the consumer in obtaining more effective use from the device. If training will help, how much is necessary? The concept of whether or not

training will increase consumer benefit is not limited to increases in speech perception, but also determines if training will allow use of the devices on a reduced basis, e.g., can the device be used at a lower level of amplification or even discarded in some cases or in some listening situations? Both result in protection that can contribute to the residual hearing of the consumer.

The activities of the Demonstration and Training Division will generate tests and test procedures that can be standardized for use with the devices by other professionals.

Consumer Affairs

The results from the three laboratory components are combined into a final product report which will serve two purposes for consumers: (1) a basis for market analysis and recommending/not recommending the product for manufacture, and (2) a basis for consumer education.

Market Analysis and Manufacture. For sales of a product to be successful, there must be sufficient need so that the product can be manufactured in quantities large enough to sell it at a price within the range of its users. The process by which a decision is made to manufacture a product requires expertise beyond the scope of the REC staff. The University of Tennessee provides a mechanism by which products developed by UT staff are determined to be patentable and marketable. This mechanism is the UT Research Corporation. The University realizes that research carried out under grants contains special provisions concerning patents and assumes the obligations to assist faculty in working with the funding agency to obtain patents and/or manufacturing rights.

Consumer Education. The availability of a product does not benefit the consumer unless he is aware of it. Even awareness of the existence of a product does not insure its successful use. Information gathered thus far by the REC indicates that even though deaf and hearing-impaired consumers are aware of some types of products, they are confused about which model of a device is best for them. They wonder if a device will really work for them. The cost of most assistive devices is significantly high enough that a hearing-impaired consumer wants to know what will help and what will not help before purchasing a device. The uncertainty about which product is best for a particular person also plagues the professional who works with deaf and hearing-impaired people. The REC hopes to assist both the consumer and the professional through education/information activities.

Assistive Devices Exhibit

The REC, as previously mentioned, will publish final product reports in the form of consumer guides, professional publications, news items, etc. However, since reading about a device and trying it out can lead

to vastly different conclusions, the REC is developing an assistive devices exhibit. Rudimentary in its beginnings, it is hoped that in time the exhibit will become more comprehensive and will be a permanent fixture on site. The REC will have as part of this exhibit the devices on which evaluations are currently being performed as well as devices that have been developed as a result of research efforts.

Surveys/Interviews

A survey of deaf/hearing-impaired consumers (including parents of deaf/hearing-impaired children) and of professionals who work with deaf and hearing-impaired people is being conducted during this first year of the REC. Approximately 1700 surveys are being sent to persons on the mailing lists of associations for deaf and hearing impaired and to the rehabilitation counselors for the deaf in nine southeastern states. Additionally, all clients of the UT Hearing and Speech Center and those from the State Office of Vocational Rehabilitation who have been fitted with hearing aids in the last two years are being polled. From the results of this survey the REC will pinpoint and prioritize problems that the various populations are having with devices. The results of consumer guidance to research can be a quicker solution to the most pressing problems at the grass roots level.

Consumer Information Bulletin

The REC will publish periodic consumer information bulletins which will inform professionals and consumers on the results of pertinent research but without the detailed specifications and descriptions provided by the product guide. There will be no set schedule for publication of this bulletin; it will be published as warranted by the research generated by the REC.

Workshops

Another means of disseminating REC research results is through workshops which can be held for a variety of professionals, including vocational rehabilitationists, audiologists, speech pathologists, otolaryngologists, educators and others. Topics at the workshops are expected to revolve around the results of studies conducted by the REC staff. As previously discussed, this research is expected to yield new information on improving user satisfaction with hearing aids and other devices and on improved techniques for assessment and training of clients. State directors of Rehabilitation Counselors for the Deaf in the Southeast Region have indicated that they would be interested in workshops for all counselors, not just those designated as rehabilitation counselors for the deaf. Workshop topics mentioned as priorities included (1) hearing aid selection, maintenance, and troubleshooting, and (2) availability, application, and source of other assistive devices.

This basic information is of sufficient importance to be disseminated with research results conducted by the REC and is within the scope of REC activities. UTREC is currently negotiating with Dr. Doug Watson, director of the Research and Training Center in Arkansas, to use the information generated by UTREC as part of their workshop and other forms of information dissemination.

Through the Research and Training Centers sponsored by NIHR, the UTREC also can disseminate its research findings.

The REC expects to successfully develop plans for conducting workshops and to disseminate information to professionals serving deaf and hearing-impaired clients.

Advisory Council

Another way in which the REC remains responsive to the needs of the hearing-impaired population is through its Advisory Council.

Selected to represent a variety of groups, the Advisory Council assures that the REC selects projects and assesses its impact in a realistic but useful manner.

The Advisory Council is composed of individuals who are involved in working with deaf and hearing-impaired groups on a local, state, and national level, as well as individuals who are knowledgeable about government agencies, research, and private enterprise. Some are hearing impaired. The council includes an engineer, educators, audiologists, hearing aid manufacturers, a deaf consumer, a parent of a deaf child, and representatives from the State Vocational Rehabilitation Office, from the Tennessee Council for the Hearing Impaired, and from the National Association for the Deaf.

RESEARCH AND DEVELOPMENT

During its first year, the UTREC has prototyped two devices which stemmed from conversations with consumers. The first device is a voice level meter which serves also as an environmental sound level indicator and was suggested by several deaf persons. A small device about the size of a pocket calculator, the voice level meter indicates through sequentially activated lights, the level of a person's voice or ambient room noise. Each light represents a 3 decibel increment in loudness level. A severely or profoundly hearing-impaired person who uses speech to communicate can use this device to help regulate his voice loudness level appropriately. If the noise level in the restaurant, for example, rises or an airplane goes over, the hearing-impaired person can detect these increases and raise his voice also. If the noise level falls, he can lower his loudness and not be embarrassed by speaking too loudly for the environmental noise level. It is estimated roughly that this device could be manufactured and sold for $25 to $40.

Another device in the prototype stage at REC is a portable smoke

alarm suggested by Steven Ray, Northwestern Louisiana State University, Natchitoches, Louisiana. This device is a smoke alarm which fits over the door of a hotel room and activates a modified strobe light inside the room if smoke is detected in sufficient quantity in the hallway. The bright, rapid flashing of the strobe alerts the sleeping person to a dangerous situation, whereas a conventional smoke alarm, telephone call, knock on the door, etc., would go unnoticed by the deaf person.

In evaluating tinnitus maskers, it was felt that some questions regarding the nature and diagnosis of tinnitus needed to be answered in order to evaluate the effectiveness of the maskers. For this reason, the REC is proposing to continue its evaluation of tinnitus maskers over the next two years. The REC is developing a "Master Masker" which will allow for more precise determination of the loudness and pitch of a subject's tinnitus. The Master Masker is a research tool with two separate channels for noise source. One channel will deliver sound at one octave band, ½ octave, or ⅓ octave; the second channel delivers pure tones and can be varied from 20 to 2000 Hertz. The Master Masker has controls which allow the mixing of these two channels in any proportion, as well as controls which vary the loudness or sound pressure level to each ear independently. The infinite variability of sound which can be reproduced by the Master Masker will allow precise matching of a subject's internal tinnitus, thereby giving the clinician or researcher better information on the type of masker that can be of most benefit.

Other spin-offs of current evaluations at the REC include a vibrotactile study and a study on tonality or words used for hearing tests. In gathering normative data from which comparisons to the SUVAG and Polyfonator vibrators could be compared, it was discovered that little information on vibrotactile stimulation existed. The information that could be found was dated 30 to 40 years ago. Thus, studies have been undertaken to determine several aspects of vibratory stimulation: the range of frequencies transmitted effectively through vibrators, the optimal voltage level (intensity) for perception, optimal vibrator placement for perception (inner wrist, outer wrist, fingertips). These measurements are being taken for normal hearing and hard-of-hearing subjects.

The distribution of energy of each sound in a language varies over different frequencies and with time. This distribution is what gives the sounds their individual character, and based upon the sound combinations making up different words, also determines the tonality of each word. Depending upon the tonality range of a word—high, middle or low—that word is more or less difficult to perceive under different conditions. The REC Demonstration and Training Division is developing a standardized list of words to be used by clinical audiologists to test hearing-impaired people for speech reception. The new tonality list will give audiologists more information about the character of their clients' hearing loss and add to their knowledge in selecting an appropriate hearing aid.

SUMMARY

The UTK REC exists as a consumer-oriented research center to evaluate the performance and use of selected communication assistive devices and to suggest modifications and improvements for these devices and to develop new devices. Emphasis is also placed on developing the most efficient procedures for objective testing, training, and reporting of results. Public information and education through surveys, exhibits, and consumer guides is a priority. Through these channels, the REC can contribute to improving the quality of life for and service to the deaf/hearing-impaired community.

ANNOTATIONS OF PUBLICATIONS ON DEAFNESS FROM THE UTK COLLEGE OF EDUCATION

LARRY ADKINS

Arwood, B., ed. *Proceedings of the Fifth Annual Region IV Institute on Education and Rehabilitation of Deaf Persons*, October 6–8, 1975. Sponsored by Department of Special Education and Rehabilitation, College of Education, The University of Tennessee, Knoxville, TN, 100 pp.

Many disciplines were represented at this South Carolina Conference which involved a multi-dimensional service approach to meeting rehabilitation needs of deaf persons. Access to public services for deaf persons, integration of educational resources, interpreters, advisory council implementation, a deaf consumer panel and state meetings were highlighted in the program presentations. Significant progress in South Carolina's service to deaf persons was declared. Staff additions, coordination efforts, cooperative programs, an evaluation and training center, interpreter utilization, and organizational development were documented growth areas cited in South Carolina within the previous four years.

The keynote address, "Stop World—I Want to Get On," was delivered by Thomas Mayes, Ph.D., Dean of Continuing Education, Gallaudet College. He said that services to deaf persons must be improved in order to avoid disadvantaged educational experiences and underemployment for deaf persons. Vocational rehabilitation counselors presented views of deaf programs and community linkages in providing a continuum of services for deaf people.

Gonzales, R., and G. Lloyd. *Governor's Conference: A Directory of Services and Organizations for Deaf People*. Knoxville: The University of Tennessee.

This booklet provides a documentation of papers presented and recommendations resulting from group discussions at the governor's conference on initiating comprehensive services for deaf people in Tennessee. The foreword is by Glenn Lloyd, conference chairman, and William Woodrick, assistant chairman of the conference. This was a first attempt to identify services and agencies in Tennessee related to or designed for the needs of deaf people. Problems

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Larry Adkins is a doctoral candidate in the Department of Curriculum and Instruction, The University of Tennessee, Knoxville. Since February 1981, he has served as program coordinator for special projects with deaf-blind and behaviorally disturbed deaf children for the Department of Special Education and Rehabilitation and the Tennessee State Department of Education at the Tennessee School for the Deaf. He also serves as a parent representative to the advisory board of the Southeast Regional Advisory Board for deaf-blind children.

of identifying the deaf population and determining demographic characteristics and educational needs were identified by E. Dale Doak, assistant dean, College of Education, University of Tennessee. Issues addressed in the conference included: the adult deaf person in the community, a taxonomy of needs of the deaf, goals for the future, recommendation for service, present and future needs of deaf persons, recommendations for coordination of services and a directory of services and organizations for deaf people in Tennessee.

Cassell, J., and G. Lloyd, eds. *Developing Telecommunication Services for Persons Who Are Deaf.* Regional Rehabilitation Continuing Education Program, Department of Special Education and Rehabilitation, The University of Tennessee, August, 1977, 136 pp.

The conference which this publication describes explored the field of telecommunications to determine what technological resources were available and how deaf persons could be aided in using these resources to participate more effectively in the larger hearing society. Participants in the two and one-half day conference held in Nashville, Tenn., were deaf persons, telephone company representatives, vocational rehabilitation personnel, educators, interpreters, and community service agency representatives. Society was described as dysfunctional in serving the communication needs of the hearing-impaired person. (At that time, costs ranged from $250 to $1,000 for equipment necessary to enable deaf persons to use the telephone.)

The goals of the conference were to reduce communication barriers to deaf persons, to provide information, share mutual concerns, and foster cooperation among representatives from Region IV rehabilitation personnel. The publication describes information systems, teletypewriters, interpreter and referral services, and the Catholic Deaf Center of New Orleans. A challenge to state groups and appendices are included. Presenters delivered formal addresses followed by group discussions, and this report provides narratives of speeches.

Dirst, R., and W. Woodrick. "Quality Assurance Screening Model for Interpreters of the Deaf." Consortium of R.I.D. Chapters of Region IV and the University of Tennessee, June 1979, 18 pp. in J. Hanson and D. Corthell, *Report from the Study Group on Interpreter Services for Deaf Clients: Guidelines for Rehabilitation Personnel*, Seventh Institute on Rehabilitation, June 2–5, 1980.

This article describes the components and motivation for establishing the Quality Assurance (QA) Screening Program by individuals in the Southeast Region (Region IV) of the United States. The instrument resulted from a joint effort by local and state R.I.D. chapter and rehabilitation individuals. The QA plan provides an avenue for progressive screening of the changing skill level of interpreters toward identification of competencies. R.I.D. teams evaluate interpreters in the following areas: general information about deafness, knowledge of interpreter ethics, expressive interpretation of 120 words per minute, expressive translation from spoken message, reverse interpretation of a signed passage into spoken word, and ability to reverse translate a signed passage into spoken word. A definition of terms, overview and description of the QA screening, QA team composition, duties of chairman of the QA team, compensation of QA team members, QA screening levels and a description of levels appears in the publica-

tion. Appended material includes applications, QA screener's form, and interview questions.

Lemonds, C., and P. Moss. *Choosing a Job. . .Information About Deaf People and Their Jobs.* Knoxville: The University of Tennessee, Southern Regional Media Center for the Deaf, 1974, 70 pp.

This booklet describes career opportunities for deaf people. Counselors, teachers, and students are encouraged to utilize the job write-ups selected from thirteen states within the Southern region. Pictures, information, and personal identification of workers are designed to motivate professionals and students to seek additional information in search of careers. The 69 jobs presented as suitable for deaf persons include bookkeeper, computer programmer, draftsman, mason, teacher, and X-ray technician. A list of career programs for deaf students is provided.

Lloyd, G., ed. *Guidelines for Effective Participation of Deaf Persons in Professional Meetings: Final Report.* Atlanta, Georgia, March 17–19, 1971, 115 pp. Sponsored by the Department of Special Education and Rehabilitation, College of Education, The University of Tennessee, Knoxville, and by the Social Rehabilitation Services/Rehabilitation Services Administration and the Office of Education/Bureau of Education for the Handicapped under Number rSRS 44-P-2011/4-10 (412).

These proceedings describe a workshop which was designed to develop guidelines for facilitating participation by deaf persons in professional meetings. Included in the considerations were problems associated with interpreting for deaf persons in large groups, serving both speaking and non-speaking deaf persons in large meetings, and using media in large groups. Planning, implementation, and evaluation of workshops were considered in separate presentations. The keynote address, presented by Edward C. Carney, executive secretary, Council of Organizations Serving the Deaf, addressed the identification of problem areas of deaf persons in professional meetings. Mechanical device needs, environmental safeguards, and eradication of a paternalistic approach by professionals working with deaf persons highlighted the address.

Lloyd, G., ed. *Habilitation Through Media Report.* Knoxville: College of Education, The University of Tennessee, 1968, 103 pp.

This report of a conference on utilization of new media in the vocational rehabilitation process with multiply handicapped deaf people features papers, participation strategies of habilitation personnel, and media technology. Each participant was encouraged to become cognizant of video technology, programmed instruction, projection equipment, overhead transparencies, special devices, and materials.

Vocational education, personal adjustment, occupational information, and job application processes categorize the software development objectives of the workshop. The keynote address stressed importance of understanding the client and fitting media usage to the client's needs. An industry and mental retardation program in St. Louis was presented. The report is appended with a plan-

ning committee and workshop roster interpreters, group leaders, recorders, and guests list.

The conference was supported in part through grants by the Rehabilitation Services Administration (Grant No. 412T-68) and Captioned Films for the Deaf (Grant No. OEC-2-7000235-0235) to the Department of Special Education and Rehabilitation, College of Education, The University of Tennessee, Knoxville, March 4–7, 1968.

Lloyd, G., ed. *International Research Seminar on the Vocational Rehabilitation of Deaf Persons.* Knoxville: The University of Tennessee, 1968. Supported in part by Grant Number RD-2643-S from Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D.C., 434 pp.

This report of an international seminar explores the problems, strategies, dimensions, and trends of vocational rehabilitation for deaf persons. An initial effort for international participation in service to deaf persons was launched in this first International Research Seminar on the Vocational Rehabilitation of Deaf Persons. Information was provided for caseworkers, researchers, and teachers in America and abroad. Presentations by experts in rehabilitation, psychology, social work, education, medicine, guidance, audiology, communication, and linguistics included topics such as community service patterns, involvement of deaf people for effective community service, improving individual involvement in society through language, proper case services and proper diagnosis and evaluation, potentials for deaf persons, daily living needs, vocational adjustment, family relationships, marriage, mental health needs and services for deaf persons. A foreword is provided by Glenn T. Lloyd, and a list of participants and interpreters appears along with a table of contents of themes, commentaries, and summaries of presentations.

Murphy, L., and M. Tunstall, eds. *A Summary of the Proceedings, Fourth Regional Institute on Deafness Rehabilitation and Education,* Greensboro, North Carolina, October 1–3, 1974. Sponsored by Social and Rehabilitation Services Region IV and the Department of Special Education and Rehabilitation, College of Education, The University of Tennessee, Knoxville.

Presentations are summarized in this report of the Fourth Regional Institute on Deafness Rehabilitation and Education presented at Greensboro, North Carolina. Educational changes in North Carolina that affect the rehabilitation process are presented. Emphasis is placed upon language skill development, student participation, and independent learning/living. Discussions include the provision of vocational education opportunities for deaf people, the implementation of a model state plan, state discussions of model state plans, career and job development, parent discussions, and mental health and deaf people. A summary of presentations is provided.

Ott, J.T., ed. *Proceedings of a National Workshop on Improved Opportunities for the Deaf.* October 18–22, 1964. Sponsored by Vocational Rehabilitation Administration, Department of Health, Education, and Welfare. Knoxville: The University of Tennessee, June 1965.

These proceedings describe The University of Tennessee Workshop on Improved Vocational Opportunities for the Deaf, which was the first workshop of national scope to bring together as participants in a conference representatives from all areas of interest dealing with deafness. Participants were educators of the deaf, rehabilitation workers, deaf persons, parents of deaf children, labor, and government.

Subject areas in the report include assessment and evaluation of vocational training programs, recruitment and training of staff, auxiliary services, and a summary of the proceedings. Appendices are lengthy and include information on developing a broader understanding of the problems of deafness, trends in the field, and advances in technical education for deaf persons.

Educational Specifications for the West Tennessee School for the Deaf (Elementary and Secondary). Knoxville: School Planning Laboratory, College of Education, The University of Tennessee, 1972, 372 pp.

This publication represents the combined efforts of the administration and faculty of the Tennessee School for the Deaf, selected University of Tennessee and outside consultants, and the School Planning Laboratory staff. It contains guidelines and criteria for the deaf school operations for elementary and secondary education. Educational objectives, discernible trends, activities, enrollments, space and storage requirements, desirable furniture and equipment, and spatial relationships are discussed. Administrative concerns of shared facilities, elementary and secondary programmatic areas, and satellite education programs/recommendations are presented in the report. Quantitative guidelines, where specified, are arranged to cover specific services, personnel, budgeting, equipment, materials, physical facilities, and inter-school coordination. Information sheets, charts, participant identification, and various explanatory notes are appended.